

## Inside Dope

By GEORGE  
F. TAUBENECK



Learn to live and laugh —  
thus delay your epitaph

**Stories of the Week**  
Get Well, Austin Jones!  
Peter Does It Again  
Solar Air Conditioning  
Air Conditioned Farmers  
New Home Market  
Shattering News  
Final Thoughts

### Stories of the Week

Fronting the Wenonah hotel in Bay City, Mich., is a well-kept public park. Inset is a jewel of a Grecian-style public building. Attached bronze plaque reads, in effect:

"Donated to the citizens of Bay City by Mrs. Blank Blank, in memory of her husband."

It is a public comfort station.

Pausing at a stoplight in Midland, Mich. (home of Dow Chemical Corp.) Joe Sullivan spied this sign on the rear of an auto:

"Please don't bump me. Your daughter may be inside."

A reporter asked Bernard Shanley, White House special counsel, if President Eisenhower laid down any hard-and-fast rules for the staff's behavior.

"Yep, and they're very simple," said Mr. Shanley. "He laid them down to the staff right after he was inaugurated and he tells them to each new staff member. They are:

"I want everybody smiling around here. Always take your job seriously, but never yourself. Don't forget to pray."—*Gospel Herald.*

### Get Well, Austin Jones!

No doubt you've heard the wisecrack about a worried sailor who sent his girl a "Get Sick!" card.

What we're asking responsive readers to do is mail "Get Well!" cards to one of the finest and most deservedly popular fellows in our industry, Austin Jones.

Austin (who sells for Kero-test) is recuperating from a serious operation in University hospital, Columbus, Ohio.

His lovely wife, Pat, reports that gregarious Austin is champing at the bit to get into harness again — because he misses daily contacts with his friends so much.

O.K., friends of Austin Jones: please write to him!

### Peter Does It Again

Dr. Peter Schlumbohm of New York, our favorite inventor, has patented a decanter for pouring ice cubes.

(Concluded on Page 8, Col. 1)

## Here's a Great Opportunity To Insure the Future of Your Industry and Business

("Conscience of the Industry" Editorial  
by George F. Taubeneck)

Any way you look at it, the air conditioning and refrigeration industry is in its infancy. It's a lusty infancy, to be sure, and it's gaining weight and stature rapidly—but it is suffering growing pains.

Nevertheless, the best is yet to come, *we hope.*

What do we need to attain that "best to come" pot-of-gold-at-the-foot-of-the-rainbow? Many, many things, chief of which are:

(1) *Accelerated engineering research.* All around the industry people are champing at the bit for modern product solutions to present installation and service quandaries.

(2) *Skilled manpower.* Lack of trained and talented personnel is holding back our industry's progress more than any factor. Especially do we need skilled mechanics at the local level, and sales imagination at every level.

(3) *Business integrity.* Our industry is making progress toward honest product ratings by manufacturers, but

(Concluded on Page 18)

## Trane To Enter Home, Small Commercial Field

BOSTON—A three for two stock split in the form of a 50% stock dividend for The Trane Co., La Crosse, Wis. air conditioning and heating manufacturer, was announced by D. C. Minard, president, in a talk before the Boston Security Analysts.

In reporting the action of Trane's board of directors, Minard said, "Stockholders of record at the close of business on Oct. 15, 1956, will receive a stock distribution of one new share for each two shares held."

Minard made public his company's plans for "greater emphasis" on producing air conditioning units for smaller commercial installations as well as preparation for entering the residential market. Up to this time, Trane air conditioning equipment has been directed primarily toward larger building applications.

Minard revealed that Trane nine-month consolidated sales are up 54% with new profit up

(Concluded on Page 4, Col. 5)

## J. J. Nance Named Ford Vice Pres.

DETROIT—James J. Nance, former president of Studebaker-Packard Corp., and also former president of Hotpoint Co., has been elected a vice president of Ford Motor Co.

The naming of Nance to a Ford executive post revived rumors that Ford might be preparing to enter the air conditioning or appliance manufacturing field.

All of his business experience prior to becoming head of Studebaker-Packard had been

(Concluded on Page 4, Col. 5)

## Hansen Succeeds Rose As Dole Promotes 4

CHICAGO—Harold P. Hansen, who has been general sales manager, has been appointed assistant general manager of Dole Refrigerating Co. here by E. J. Tweed, president and general manager, in an announcement of executive staff changes.

O. L. Rose, vice president, secretary-treasurer, and assistant general manager, will go into partial retirement after 18 years' service with the company,

(Concluded on Back Page, Col. 3)

## Heart Specialist Says 'Comfort Cooling' Aids Coronary Treatment

ST. LOUIS—A direct assertion that comfort cooling has therapeutic values in the treatment of persons suffering from coronary heart disease is made in the October issue of the *Journal of Chronic Diseases*, which is devoted to a symposium of coronary heart disease by medical authorities.

In this issue, which includes papers by Dr. Paul Dudley White, who treated President Eisenhower, is a paper by Dr. George E. Burch, professor of Medicine, Tulane University

School of Medicine, and an international authority in cardiology, which bears the title "Influence of a Hot and Humid Environment On the Patient With Coronary Heart Disease." In his paper Dr. Burch says:

"The use of the air-cooled oxygen tent and the air conditioning of hospitals, patients' offices, homes, bedrooms, and automobiles can assist a great deal during periods of hot and humid weather. In fact, during hot weather the cool air of the

(Concluded on Page 4, Col. 1)

## Marketing Top Subject at ARW Meeting Oct. 24

COLUMBUS, Ohio—New Orleans will be the mecca for members of the Air Conditioning and Refrigeration Wholesalers Association Oct. 24-26, date of their annual meeting to be held at the Jung hotel.

On the same dates New Orleans will also mark the gathering spot for several other elements of the industry, as several product sections of the Air-Conditioning & Refrigeration Institute will hold meetings.

Marketing problems and methods will be heavily emphasized in the talks and discussions at the programmed sessions of the equipment and

(Concluded on Back Page, Col. 1)

## Electronic Cooling Unit, Refrigerator Revealed by RCA

PRINCETON, N. J.—An electronic air conditioner with no moving parts, and a noiseless electronic refrigerator with no moving parts, were presented and demonstrated to Brig. General David Sarnoff, chairman of the board of Radio Corp. of America, by RCA engineers as gifts to mark his 50th anniversary of service in the fields of radio, TV, and electronics.

Also presented and demonstrated were a home "hear-see" magnetic tape player which reproduces TV programs through standard TV receivers, and an electronic amplifier of light which amplifies by up to 1,000 times the brightness of projected light.

In September, 1951, Gen. Sarnoff had expressed a hope that the new devices listed above would be invented by the time of his 50th anniversary.

The electronic air conditioning system comprises large wall panels which become cold under the influence of direct electric

(Concluded on Page 31, Col. 4)

## '57 Mitchell Line Longest In History

### 'Roto Cone' Series Gives More Cooling, Less Noise

CHICAGO—The longest line of room air conditioners in its history is being introduced by Mitchell Mfg. Co., Div. of Cory Corp., in a series of regional meetings opening Oct. 15 in Chicago.

Comprised of seven "series" containing 31 separate models, the Mitchell line is designed to include models that will meet nearly any kind of demand for a room unit. Included in the line are ¾-hp., 7½-amp. units and 1-hp., 12-amp. units.

Lead series in the 1957 Mitchell line is the "Roto Cone" series.

"The new patented Roto Cone development creates two new dimensions of cooling and comfort known as the 'Roto Cone of Cooling' and the 'Roto Cone of Silence,'" say Mitchell executives.

Key to Roto Cone is the self-propelled rotor that creates a "sweep cooling" effect.

It is claimed to multiply cooling efficiency while drastically reducing the sound level.

The rotor can be set to deliver this sweep cooling effect to several rooms, or to more equally cool one large room from an adjustment knob on the "Weath'r Dial" panel.

Mounted on two ball bearing floats, the rotor is self-propelled and may be locked in one position or adjusted to a number of speeds and comfort conditions, depending upon the cooling requirements of the room.

Increased cooling power is provided, say Mitchell executives, by adding 206 in. of cooling surface through 66 aluminum fins added to the liquid line. This super-charging of the refrigerant is claimed to step up cooling capacity by 310 B.t.u. per hour.

Roto Cone units are avail-

(Concluded on Page 31, Col. 1)

## BEHIND PAGE ONE . . .

### Water-Cooled Air Conditioning

Dealer Works Hard To Sell It Because  
He Believes It Best for His Customer..... 12

### Unusual 'Climate-Controlled' Equipment

'Bug Chambers,' Quail Egg Study,  
Orchid Treating Rooms Are Among  
Specialized Applications ..... 15

### Residential Air Conditioning

Engineer Advises on Installation Practices..... 17

### Refrigerant Distributors

Distributors for Direct Expansion Multi-Circuit  
Evaporators Boost Efficiency of Coils  
Over Broader Percentage of Loading..... 21

### Cooling Spanish-Type Home

10 Room Units and 10-Ton Water Chiller Used  
In Home with Enclosed Patio for  
Pan American Union Official..... 22

### Servicing Weathertron Heat Pumps ..... 28

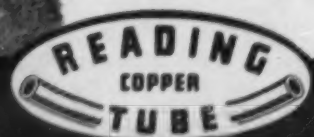


To be **SURE** of Satisfaction

Be **SURE** to Specify

# READING COPPER TUBING

FOR REFRIGERATION &  
AIR CONDITIONING EQUIPMENT



**READING TUBE CORPORATION**

EMPIRE STATE BUILDING NEW YORK 1, N. Y.  
WORKS: READING, PA.

## Marines Cool Buildings At Parris Island Depot

PARRIS ISLAND, S. C.—According to Commander Joseph J. Smisek, public works officer, more than \$5,000,000 in construction projects are now under way or planned for the Marine Corps Recruit Depot here.

Included in the first permanent recruit battalion project will be an air conditioned battalion headquarters, two classrooms, a 1,000-man dining facility, and an organic warehouse.

Also planned is the construction of a 1,000-seat depot theater, scheduled to be completed by the end of 1957. The \$335,000 brick building of modern design will be air conditioned.

Presently nearing completion are eight classroom buildings, consisting of two air conditioned classrooms each. All are expected to be completed this fall at a cost of \$342,000.

## Name Receiver for N. O. Nelson Co.

ST. LOUIS — William J. O'Herin, Federal bankruptcy referee, recently named a receiver to take possession of all assets and operations of N. O. Nelson Co., wholesaler of refrigeration, heating, and plumbing supplies.

The receiver is Elliott H. Stein, an investment broker with Scherck Richter Co. of St. Louis. He was given 30 days in which to make a thorough study of Nelson's financial affairs and to recommend what action he believes should be taken in court to solve the firm's financial troubles.

Stein, as receiver, will have control of all company operations and the power to approve or disapprove any financial arrangements the company may desire to make.

Earlier, Nelson reportedly had been seeking loans from two Chicago firms to pay off its creditors and take the proceedings out of the Federal courts. The company entered the courts voluntarily last summer when it found it couldn't pay its debts following a series of transactions while under control of Bellanca Corp.

The Securities & Exchange Commission and a minority stockholder intervened in the case in an effort to force reorganization of the company so that a full investigation could be made of its financial affairs.

After Nelson refused to submit to reorganization and creditors failed to bring action for involuntary reorganization, the minority stockholder asked that a receiver be appointed so proceedings would remain in the Federal courts.

## Cory To Unveil New Lines at Chicago Meeting Oct. 28

CHICAGO—Cory Corp. here has just announced that this national manufacturer will have a combined sales meeting for its Cory, Fresh'nd-Aire, and Nicro products divisions in Chicago, a five-day affair which will start Oct. 28.

At this sales conference, Cory plans to unveil new products and new promotional plans for 1957. In attendance will be approximately 50 Cory territory managers and divisional sales managers.

## Kroger Plans 300 Stores During 1956 and 1957 Despite 'Tight' Money

CLEVELAND — Despite "tight" money and steel shortages, Kroger Co. is going ahead with its planned store and warehouse construction program, according to Joseph B. Hall, president.

Speaking before the local Society of Security Analysts, Hall said construction of 150 new stores this year and a like number next year is planned. In addition, eight new warehouses are either under construction or will be started in the "near future," he stated.

whether it's Summer

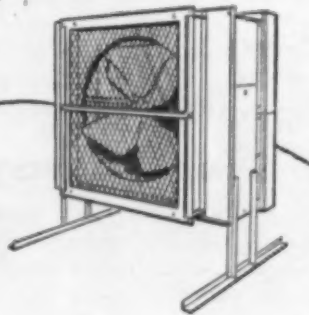
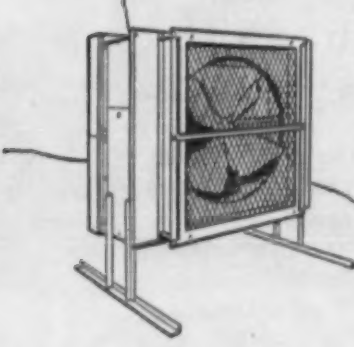
... Winter



# The ALL-SEASON WINTERSTAT with the KRAMER UNICON

makes the operation of an air conditioning system fully automatic at any outside temperature and now eliminates manual changeover from season to season

UNICON plus Kramer's patented Winterstat now gives you the ALL-SEASON UNICON — the only air-cooled condensing system providing predetermined minimum head pressure all the way to the expansion valve.



High Noon. . .

or cool of evening

**KRAMER TRENTON CO. • Trenton 5, N.J.**



## Refrigerated Truck Data To Be Offered At Oct. 22 Meeting

Expert Predicts

## '57 Home Building To Recover Ground Lost In '56

WASHINGTON, D. C.—Motor carriers interested in refrigerated transportation may obtain helpful information, particularly on the latest techniques for testing and insulating values of trailers, by visiting room 502 at the Waldorf Astoria hotel in New York City Oct. 22-24, during the annual American Trucking Association's convention, it was announced here.

At the request of the ATA committee on the transportation of perishables by motor truck, the Truck-Trailer Manufacturers' Association has arranged for educational displays of equipment designed to measure heat transfer through the walls, floors, and roof of a trailer, it was explained.

One of these displays has been prepared by the National Bureau of Standards and the U. S. Department of Agriculture. On hand to explain the methods of rating refrigerated trailers will be:

C. W. Phillips, chief, Refrigeration Engineering laboratory, of the National Bureau of Standards.

Harold D. Johnson, transportation specialist, Transportation and Facilities Branch, U. S. Department of Agriculture.

Walter H. Redit, refrigeration engineer, Biological Sciences Branch, U. S. Department of Agriculture.

Any questions regarding performance rating methods for refrigerated trailers will be explained by one of these experienced technicians, according to the association.

## Steam Turbine-Driven Units To Condition 31-Story Skyscraper

NEW YORK CITY—Cooling for tenants of New York's newest skyscraper, the 31-story office building at 485 Lexington Ave., owned and built by Uris Brothers, will be provided by two steam turbine-driven York centrifugal compressors, each with a capacity of 1,200 tons. The compressors will be installed in the basement engine room.

Approximately 2,000 York fan coil window units will cool the peripheral offices on the 31 floors, while the interior portions of each floor will receive cool air through outlets in the ceiling.

The building will contain 37 fan rooms to aid in the air distribution, while a cooling tower supplying 7,200 g.p.m. of 87° water to the refrigeration system is located on a fifth floor setback.

The first 18 floors will receive 42° chilled water from the basement refrigeration system, while the tower portion of the building will be serviced with 50° water provided by heat exchangers located on the 18th floor.

Mechanical contractor for the installation of the air conditioning system is the Raisler Corp., according to the announcement.

WASHINGTON, D. C.—"In that "expenditures for new private dwelling units will come to around \$13.8 billion, compared with a probable \$13.35 billion in 1956," He added that "with government residential building for military and public housing totted in, the total should reach at least \$14.1 billion."

Homebuilding has been weathering its 1956 squalls successfully, he said, and next

year should advance again both in dollar volume and number of new units.

The number of starts, Colean continued, in private houses and apartments, will also be on the upturn. The figure will amount to the neighborhood of 1,150,000 and could go somewhat higher, depending on credit conditions and other factors.

On top of this, he stated, government housing activities

may add another 60,000 starts, bringing the total up among those of the high volume years.

As a result of four particular factors, Colean predicts that "credit policy may lean on the neutral or easy side."

Reasons he cites for believing there will be more mortgage money available next year include:

"The Federal government will not be a net borrower. Another budget surplus is possible, despite the probability of a tax cut. In any form a Federal surplus eases the pressure on the money market."

## RANCO Solenoid Valves

... You're assured of exacting performance when you adopt the Ranco V16 Solenoid Operated Valve to your domestic refrigerator models.

... easily modified to your refrigerator, apply to a secondary or hot gas system for Quick defrosting, either by manual or automatic controls.

The V16, brazed directly into the refrigerating system, operates either a secondary or hot gas defrost system which by-passes hot refrigerant directly from the compressor to the evaporator.

Note these unique features that contribute to the V16's dependable service and easy application to specialized refrigerator designs:

- Adaptable with  $\frac{1}{4}$ " or  $\frac{3}{8}$ " outside diameter, two or three connecting tubes.
- Available in several models for pressures of 20 psi up to 400 psi, and port sizes of  $\frac{1}{8}$ ",  $\frac{3}{16}$ " and  $\frac{1}{4}$ ".
- Can be applied to unload high pressure in refrigerating system.
- Special nylon needle valve offers exceptionally long wear.
- Solenoid coil is waterproof, "potted" type molded resin.
- Available with metal cover for outside installation; cover adaptable to BX fitting.



THE V16 VALVE is typical—In quality and performance—of more than a million Ranco Controls that go into service each month. Why not let us demonstrate its direct application to your problem?



**Ranco Inc.** COLUMBUS 1, OHIO

WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS



## Cooling Aids Heart Patients--

(Concluded from Page 1, Col. 3) illness in which thermal regulation should be facilitated.

"There is a definite need to consider the hot and humid environment produced by climate, industrial working conditions, or overcrowding of the sickroom in the treatment of all patients in whom it is desired to reduce cardiac work. Greater use of air conditioning in hospitals, cardiac wards, offices, and homes will assist toward this end."

The C. V. Mosby Co. of St. Louis publishes the *Journal of Chronic Diseases*.

### B & G Names Henke

MORTON GROVE, Ill.—Appointment of H. R. Henke to the newly-created post of marketing manager has been announced by R. E. Moore, president, Bell & Gossett Co. here.

Taking over as manager will be George U. Miller.

## Avco Realigns Crosley, Bendix Engineering

CINCINNATI — Engineering staffs of the Crosley and Bendix Divs., Avco Mfg. Corp., have been realigned, and placed under the direction of Clarence Felix, Avco vice president and general manager of Crosley Government Products Div.

A statement by Avco President Chester G. Gifford declared that "it is believed that this realignment of the engineering organization is a basic step in the growth and development of our company," and that "the current organizational realignment will strengthen our ability to draw on our pool of engineering talent for the development of new civilian products."

A company spokesman said that tooling for the 1957 Crosley refrigerator line is nearing completion, but that introduction of the new models may not come until the first of the year. Advertising and sales promotion plans may be announced in the near future, it was stated.

## Frozen Food Developer Birdseye Dies at 69

NEW YORK CITY—Clarence Birdseye, pioneer developer of a process for quick-freezing foods, died here last week at the age of 69.

His original inspiration on frozen foods came when he was a fur trader in Labrador, where he found that foods frozen very quickly in the Arctic winter temperatures kept their freshness as long as they were held at low temperatures.

Some of Birdseye's earliest writings on the subject of quick frozen foods were published in AIR CONDITIONING & REFRIGERATION NEWS.

## Trane In Home Field--

(Concluded from Page 1, Col. 2) 150% over the comparable 1955 period. However, he pointed to a six-week strike during the third quarter of last year which strongly influenced these figures.

The stock split, the third in five years, increases the number of issued common shares from 1,320,000 to 1,980,000.

Minard reported that the Trane board of directors today also declared a 33 3/4 cents cash dividend on the presently outstanding shares (equivalent to 22 1/2 cents on the shares to be outstanding after the stock distribution) also payable Nov. 1, 1956, to stockholders of record Oct. 15, 1956. The 33 3/4 cents cash dividend represents a 35% increase over the 25 cents quarterly dividend paid Aug. 1, 1956.

## Predicts Record Sales Year of \$74 Million

Predicting a record-breaking sales year of around \$74,000,000 as compared with \$54,000,000 last year, Minard reported that consolidated sales through September were \$55,000,000 for 1956 as compared with \$35,650,000 for the same period last year.

Net profit moved up from \$1,534,000 for the first nine months in 1955 to \$3,850,000, including an estimate for September of this year. Estimates are for approximately \$5,600,000 net profit in 1956 as against \$3,450,000 for 1955.

Pointing to Trane's recently completed manufacturing expansions totaling 210,000 sq. ft. at La Crosse, Scranton, and Canada, Minard said, "With this added space we believe we have the facilities to manufacture \$85,000,000 to \$90,000,000 worth of equipment annually. And, we believe it will not be too long before our annual consolidated sales reach such a point."

Coupled with its plant expansion are Trane plans to expand product lines, said Minard.

## To Increase Self-Contained Air Conditioner Line

He noted that the company plans to increase its line of self-contained air conditioners for use in smaller commercial buildings such as restaurants, shopping centers, and retail stores. At present the bulk of Trane units of this type are limited from 3 to 7 1/2 hp. This line will be increased to include variations up to 50 hp. (A typical residence requires from 3 to 5 hp. for complete cooling).

While pointing out that Trane does not plan to enter the window air conditioner business, Minard reported that his company is "hard at work on the residential air conditioner line."

## Ford Names Nance--

(Concluded from Page 1, Col. 3) in the appliance and air conditioning field.

Nance's title will be vice president in charge of marketing, a new company designation. He was also named chairman of Ford's merchandising committee and also was appointed to the administration committee.

In taking the Ford post, it is rumored that Nance may forfeit some \$286,000 in severance pay from Studebaker-Packard Corp.

### Report #5

## THE G-E "VEEP" IN ACTION

How new G-E "Magic Sales-Maker"--a consumer visual sales presentation, popularly called "The Veep"--helps increase sales for G-E Home Heating and Cooling Dealers



With the "VEEP"  
I made 3 fast sales  
against low priced  
heating and cooling  
competition



BURTON (BUD) WALKER,  
General Electric Distributor  
South Bend, Ind.

For Burton (Bud) Walker, HH&C distributor in South Bend, Ind., the "Veep" arrived just in time... Bud apparently had "struck out" three times in a row. In each instance he had just about lost his prospect to lower-priced competition. Then he made one more try apiece -- this time armed with the "Veep."

The results were astounding. In two instances, Bud immediately turned lost sales into orders for heating and cooling units. Third prospect required three additional calls but, again, use of the "Veep" clinched the order -- against lower-priced competition -- a very important point.

Bud is convinced now it is easy to sell against cheaper products, if you make sure to sell all the pluses you have. This the new G-E "Veep" virtually guarantees. Watch for more true sales stories like this one -- in future G-E advertisements in this publication. They all teach the same lesson: --the profit-wise home heating and cooling dealer is the one who has climbed on the G-E Bandwagon. Want to join up?



**FREE! Sales Secrets That You Can Use.** Exciting success stories by G-E salesmen tell how they broke sales records with the aid of the "Veep." For your copy write GENERAL ELECTRIC, HOME HEATING AND COOLING DEPT. AC-106 TYLER, TEXAS.

Progress Is Our Most Important Product

**GENERAL ELECTRIC**

Home Heating and Cooling Dept., Tyler, Texas

For more information about products advertised on this page use Information Center, page 24.



## Data Provided on Builders' Cost, Upkeep, Some Calif. Cooling Refrigeration, Financing Centrally Conditioned Homes Sheet Metal Contractors Form Group

WASHINGTON, D. C.—Factual data on the cost and maintenance and financing problems involved in the construction and selling of centrally air conditioned homes are provided in "Summary Report of Conference on Air Conditioned Homes," just issued by the National Housing Center.

The 10-page summary covers the highlights of the meeting at the Center recently attended by more than 100 home builders, government officials, and air conditioning industry representatives.

At the meeting, home builders pointed out the difficulties in qualifying prospective purchasers of air conditioned homes for FHA-insured and VA-guaranteed mortgages.

Richard G. Hughes, a pioneer in the building of centrally air conditioned homes and chairman of the conference, stated that a deterrent in selling such homes was the formula used by FHA in qualifying buyers, whereby the buyer of a small home is required to have \$200-\$250 per month more to buy a home with air conditioning.

Air conditioning industry rep-

resentatives provided statistical data on the benefits of air conditioning; cost of operating central system air conditioning; and maintenance cost and operating life of residential air conditioning.

At the conclusion of the meeting, FHA officials agreed to review the entire question of government-insured mortgages for air conditioned homes, and industry representatives agreed to furnish FHA with additional operating and maintenance cost data.

"Summary Report of the Conference on Air Conditioned Homes" may be obtained without charge from the National Housing Center, 1625 L St., N.W., Washington 6, D. C.

LOS ANGELES—A membership of refrigeration contractors, air conditioning contractors, and sheet metal contractors has been combined into what is believed here to be the first such trade association of its kind.

The Inland Air Conditioning & Refrigeration Contractors Association includes contractors of the three classifications in the southern California counties of Riverside and San Bernardino counties.

Inland is a term used in these two counties which lie east of Los Angeles county, and the term is usually used to refer to the "Inland Empire" which is experiencing the same rapid growth population-wise and in-

dustrial-wise that has hit all of southern California.

The new association was officially incorporated Sept. 20, 1956, by order of the state corporation commissioner, as a non-profit corporation.

Tom Totham of Tri City Climate Controls of Riverside is president of the association. Don McGarry of Base Line Sheet Metal Works of San Bernardino is secretary-treasurer.

Henry B. Ely of Los Angeles is executive secretary. J. C. Spradley is assistant executive secretary, and is actively working in the field completing organization of the association.

The Inland Association is affiliated with the Sheet Metal Contractors Association of

Southern California, and also has become a separate division of the Refrigeration & Air Conditioning Contractors Association of Southern California.

The Inland Association will deal on labor relations with both the Sheet Metal Workers and the United Association. It will also take up building code matters in the various cities of San Bernardino and Riverside counties, and will concern itself with trade practices.

Executive Secretary Ely said this is the first trade association in the area to appeal to both the sheet metal contractors and the refrigeration contractors.

### Airtemp Names Morrell

DAYTON—J. David Morrell has been appointed to the public relations staff at Frigidaire Div., General Motors Corp., it was announced by C. Carlton Brehler, director.

### 11 Ask To Participate In Making Army's Food Radiation Reactor

WASHINGTON, D. C.—The Atomic Energy Commission has announced that it is studying 11 offers received recently from concerns to participate in designing, developing, and building a food radiation reactor for the Army.

The reactor will be used by the Quartermaster Corps in its study of preserving food and otherwise experimenting with the effect of gamma rays on edibles. A site for the reactor will be selected soon, the AEC said.

The 11 offers were received as the result of an invitation issued to industry last summer. None of the proposals were made public. Internuclear Co. of Clayton, Mo. is completing a preliminary design concept for the commission.

Meanwhile, it was reported in New York that ten concerns in various major industries have formed a company to build and operate a privately-owned nuclear reactor at Plainsboro, N. J. for research on peacetime applications of atomic energy.

One of the concerns, Continental Can Co., hopes to learn more about the effects of radiation sterilization on foods and on materials that are used—or may be used in the future—to package them.

Pointing out that its objectives are long range, the company said it doesn't anticipate any commercial application of the results for an indefinite period.

### Ad Agency Names Ware

SYRACUSE, N. Y. — W. Worth Ware has been appointed director of publicity of Chapman-Nowak & Associates, advertising and publicity agency.

Ware will head up the publicity operation of the agency.

**LINE UP *for* with SPORLAN** **Right-Down-the-Line PEAK PERFORMANCE on All Air Conditioning Installations**



**No matter how large or small the system, there's a perfect Sporlan hook-up available from Catch-All to Distributor**

Everyone knows about Sporlan Catch-Alls, the perfect Filter-Driers. They assure you filtering instead of straining. Dirt-free, sludge-free systems are the result. Harmful corrosive acids are adsorbed and retained. In addition, they dry down to an end point so low that any remaining moisture is absolutely harmless.

The new Sporlan Solenoid Valves offer even greater Peak Performance with the new power-packed Blue Seal Coil. No more worries over electrical failures. They're really tight closing, too!

Sporlan Thermostatic Expansion Valves with the exclusive Flow-Master element, are your guarantee against hunting. Alternately starved and flooded evaporators will never plague you again with these Peak Performers!

Uniform distribution to all circuits are yours with Sporlan Peak Performance Distributors. Their perfectly designed conical button and interchangeable nozzles give them greater flexibility and a much larger range of application.



**So *for* Right-Down-The-Line Peak Performance on all air conditioning systems... Line up with Sporlan and get Peak Performance on every installation.**

**SPORLAN**

**SPORLAN VALVE COMPANY**

7525 SUSSEX AVENUE St. Louis 17, Mo.

EXPORT DEPT. AD AURIEMA INC., 89 BROAD STREET, NEW YORK 4, N. Y.



## Price Boosts

### Bendix Increases Prices Up to \$20

CINCINNATI — Price increases up to \$20 will be effected by Bendix Home Laundry Appliances on Oct. 8, the company has announced.

According to J. L. Armstrong, general sales manager of the Aveco Mfg. Corp. division, suggested list prices will be advanced \$20 each on two "Deluxe Duomatic" combination washer-dryers, and two tumble-agitation washers; and \$10 each on four dryers.

Reasons for the increases, Armstrong said, are "higher labor and materials costs."

The Bendix executive emphasized that "prices are not affected on our 1957 'Custom Duomatics,' or our new 'Custom' super-fast dryers.

### Hamilton Raises All But One Dryer Model

TWO RIVERS, Wis.—Prices of its dryers, with the exception of one model, are being raised by Hamilton Mfg. Co. due to higher costs of materials and labor.

The company recently recommended that dealers boost dryer prices \$10 across the board, except on model 290-G, an automatic ignition gas unit. Dealer and distributor prices will vary according to the model involved, a company spokesman said.

### 5% Washer, Dryer Boost Announced by Maytag

NEWTON, Iowa—The Maytag Co. has raised prices on all models of its automatic washers and dryers by 5% because of "the steadily climbing costs of materials and wages," Claire G. Ely, general sales manager, announced recently.

Ely has suggested that the retail prices of washer models 140 and 140S be increased \$30 and that of model 102 be hiked \$20. He also suggested that dealers boost retail prices on all Maytag dryers by approximately \$20.

### Norge Increases Range From \$10 to \$30

CHICAGO — Price increases on automatic washers and clothes dryers, conventional (wringer) washers, and home freezers ranging from \$10 to \$30 were announced recently by Norge Div., Borg-Warner Corp.

The distributor and suggested list price increases were effective Oct. 1, 1956, according to Harold P. Bull, Norge vice president in charge of distribution.

"For the past several months we have been absorbing spiraling costs of raw materials and components and transportation. We've postponed price increases despite increases of all our main competitors, but cannot continue existing price structures," Bull commented.

In July of this year, Norge introduced washers and dryers carrying suggested list price tags some \$30 below the cost of corresponding 1955 models, he observed.

Prices on Norge refrigerators, gas and electric ranges, and water heaters are unchanged.

## Admiral Builds New Plant In Galesburg

CHICAGO—Construction of a new 40,000-sq. ft. building for servicing and storing refrigerator systems at Admiral Corp.'s Appliance Center in Galesburg, Ill. was announced recently by J. R. Oberly, vice president-appliances.

Oberly also announced a 180-ft. long extension to the company's press room and construction of 6,500 additional feet of

inter-building conveyors. The new press room structure will be ready for occupancy by mid-November while the conveyor was ready last month.

Admiral will have over 7½ miles of conveyors of all types in use when the additional materials handling equipment is completed.

The new conveyors will be used for storage also.

## Guaranty Service Is Radar-Eye Distributor

NATICK, Mass.—Radar-Eye Corp. here has announced the signing of the first distributor franchise for the new "Radar-Eye" protection system.

The distributor is Guaranty Service, Inc., Orange, N. J., which was described as "the largest independent major appliance service company in the United States." The firm has more than 90 servicemen operat-

ing in 11 northern New Jersey counties, it was announced.

Guaranty Service plans to sell Radar-Eye products through a direct sales organization in metropolitan areas and through franchised appliance dealers in the smaller cities in its territory. John Langan is president.

D. A. Packard is president of Radar-Eye Corp. and A. S. Lawrence is vice president, sales.

## Now...tripled supply G-E small fan motor

The advertisement features a large, dark, circular image of a GE small fan motor. A white rectangular box with a pointer indicates the internal oil reservoir, labeled "STORAGE FOR TRIPLED SUPPLY OF OXIDATION-RESISTANT OIL". To the right, a hand holds a test tube. A label points to the top of the test tube, which is partially filled with oil, labeled "ADDITIONAL SUPPLY OF OIL FOR EXTRA-LONG LIFE MODEL". Below the test tube, another label points to the bottom, labeled "STANDARD OIL SUPPLY". In the bottom right corner, there is a small inset image of a motor component with the text "1.5 TO 16 WATTS 4- and 6-pole, shaded-pole".



## Will Take Mystery Out of Claims

## Carrier Hails 'End to Public Confusion' In ARI Room Unit B.t.u. Ratings

SYRACUSE, N. Y.—Carrier Corp. recently hailed the new agreement to publish room air conditioner B.t.u. cooling capacity ratings certified to the Air-Conditioning & Refrigeration Institute as a means of ending public confusion in the purchase of these small air conditioners.

The agreement was announced

recently by Carrier and 21 other manufacturers at a meeting of the room air conditioner section of the ARI.

William C. Egan, room air conditioner manager for Carrier, said the decision to release British Thermal Unit ratings certified according to the ARI Standard 110-56 testing method would take a good deal of the

mystery out of varied cooling capacity claims.

"It gives potential buyers an honest and objective yardstick against which to compare the cooling output of room air conditioners produced by the 22 firms signing the agreement," Egan declared. The participating manufacturers account for the major portion of the na-

tion's room air conditioner production, it was further commented.

The Carrier executive urged all purchasers—regardless of the brands they are considering—to ask for the ARI Certified B.t.u. rating before making their selections of room air conditioners.

Egan said ARI Standard ratings would be published on all of Carrier's 1957 models as soon as final capacity testing is completed.

## Sutton 9-Mo. Net Tops \$1.3 Million; Begins '57 Line Production

WICHITA, Kans.—Net sales of the O. A. Sutton Corp., Inc., manufacturer of "Vornado" air conditioners and circulators, rose to \$34,627,638 for the nine months ended Aug. 31, 1956, O. A. Sutton, president and chairman, reported recently.

This compared to \$23,985,343 for the corresponding nine-month period in the previous fiscal year.

Operations for the nine-month period resulted in a net profit of \$1,327,989 as contrasted with a net profit of \$259,000 in the same period last year.

## RECORD SALES, EARNINGS FOR FIRST 7 MONTHS OF '56

Sutton stated, "For the first seven months of the year, the company had record sales and earnings. However, the cool weather prevailing in most of the major markets during July and August resulted in lower sales than previously had been expected."

Net sales for the third quarter of the current year totaled \$8,433,372 as compared with \$3,211,088 for the corresponding period of fiscal 1955. Net income was \$18,626 as compared with a reported net loss of \$540,567 last year.

Sutton said that the company is now producing its new 1957 lines. He hinted that a new product may be announced in the near future.

## RE-ENTERS DEFENSE PRODUCTION FIELD

The chief executive also pointed out that during the third quarter, the company had received military contracts for jettisonable fuel tanks for approximately \$3,450,000, marking the re-entrance of Sutton into the defense production field.

He reported that during August Sutton acquired some 90,000 sq. ft. of floor space, known as plant 2, which had previously been leased. It was paid for in full without the use of any mortgage, he further stated.

The board of directors declared the regular preferred dividend of \$1.50 on the 6% cumulative preferred stock payable to stockholders of record on Oct. 1, 1956.

While no action was taken on the common stock at this time, Sutton stated that the subject of resumption of common dividends would be given the attention it certainly deserves when the earnings outlook and cash position of the company reasonably permit it.

## Mitchell Names Smith, Cotsakis to Key Posts

CHICAGO—Appointment of two men to key posts in Mitchell Mfg. Co. has been announced by J. W. Alsdorf, president.

W. J. Cotsakis, Jr., has been named personnel director and Elmer Smith, director of procurement.

Cotsakis formerly was in the personnel division of Cory Corp. and Smith was director of procurement for the Fresh'nd-Aire Div. of Cory.

# of improved oil greatly extends life for extra long-term applications

Keeping pace with the demand for longer-life domestic refrigerators, freezers and refrigerating condensing units, General Electric now announces the availability of a small fan motor with greatly increased motor life! In step with the forward thinking of our customers, this new motor life expectancy is the result of 1. TRIPLED OIL SUPPLY and 2. OIL WITH INCREASED OXIDATION LIFE.

Here's how extra-long life was designed into a motor already the leader in its 1.5- to 16-watt power range: first, a new design of oil storage wicks with triple oil capacity was added. Next, laboratory technicians had to make sure that the lubricant used would hold up during the resultant extra-long projected motor life. Approved laboratory testing procedures resulted in the use of a new oil with oxidation life several times that of the best oil previously used!

Combining extra safety factors, increased oil, and additional life expectancy of the new oil thus makes possible a projected *extra-long* motor life where desired—and at only a modest price increase over the standard G-E shaded-pole fan motors of this size.

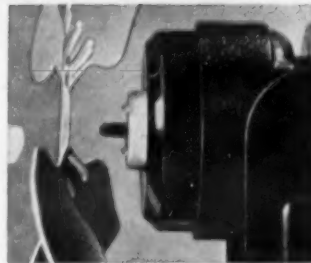
Here are more reasons why these small fan motors—both standard and extra-long life—are your best buy:

**BUILT-IN HUB** and special shaft mounting threads permit the use of simple, hubless, low-cost fans—saves you money on your motor and fan combination.

**QUIET OPERATION**—The vibration-absorbent, one-piece, cast-iron frame, plus extremely accurate alignment, add up to quiet motor operation.

**SIX-POLE DESIGN**—the only one of this size on the market—has been developed for applications such as home freezer systems, condenser cooling fans, etc., where lower fan and air noise is desirable.

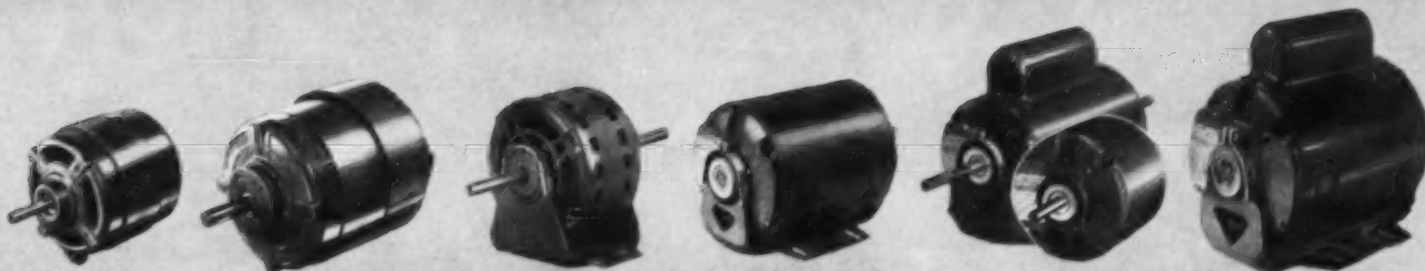
**EXPERT APPLICATION HELP** from G-E engineers is available to you. For complete shaded-pole motor service, contact your local G-E Apparatus Sales Office. Or write for Bulletin GEA-6134 to Section 632-2, General Electric Co., Schenectady 5, N. Y.



*Progress Is Our Most Important Product*

**GENERAL  ELECTRIC**

SETTING THE PACE IN MOTORS FOR THE AIR CONDITIONING AND HEATING INDUSTRIES



15 TO 35 MHP 2- and 4-pole, shaded-pole

25 MHP TO 1/12 HP shaded-pole and perm. split cap.

1/12 TO 1/4 HP 4- and 6-pole, shaded-pole

1/6 TO 1/2 HP, split-phase

35 MHP TO 1/2 HP perm. split-cap.

1/6 TO 3/4 HP, capacitor start



## Inside Dope

By GEORGE  
F. TAUBENECK

(Concluded from Page 1, Col. 1)

"The problem with ice cubes at cocktail parties," he says, relative to his Patent 2,762,293, "is that nobody uses tongs or other gripping devices to remove two or three ice cubes from an ice bowl, and the manual approach is not hygienic."

His decanter is a U-shaped tube set in a cradle. The host or hostess grasps a handle near one of the ends, rocks the tube back and forth, and tilts it to dispense ice from the other end.

Good deal!

### Solar Air Conditioning

Ed Klee, who knows almost everything going on all around

the world, has heard that a Frenchman is working on a machine which makes ice out of sunshine. It has neither motor nor compressor, an anonymous informant told Ed. What it does have we don't know, outside of these rumors:

A 100-cu. ft. device catches the sun's rays, pivoting to follow the sun from east to west. Energy thus caught operates on the principle of evaporation (using ammonia solution) to refrigerate.

Its inventor dreams of a day when his sun air conditioner might be employed to air condition the Sahara desert. Incidentally, please don't write us for his name and address. No can do.

No patent. No product. Just rumor.

Frigidaire and Purdue researchers are working independently toward solar-powered

cooling, also. Thus far their reports aren't sanguine.

### Air Conditioned Farmers

An all-weather farm tractor, fully air-conditioned for summer and winter, has been introduced by Cockshutt Farm Equipment, Inc. The operator's seat is enclosed by a steel and glass cockpit, which also sports a push-button radio.

This "Weather King" tractor will prevent fatigue, increase efficiency, and prolong the lives of farmers, claims Cockshutt.

Incidentally, we believe Cockshutt's claims. As a lad "Dope" did summertime farmwork in steaming-hot southern Illinois.

Air conditioning certainly would be an improvement.

### New Home Market

As to new home building, we can be sure that desire for home

ownership will continue to grow in the next dozen years. Reasons begin to be a substantial factor soon.

1. More than 800,000 new families are created each year.

2. More than 4,000,000 babies are born annually, and that number will shoot up in the 1960's, when the bumper crop of kids born in the 1940's get married.

3. We are enjoying the highest rate of personal income in our history—\$312.5 billion annually, as of now—\$500 billion predicted for late 1960's.

4. People move a lot. Some 30,000,000 people change addresses annually.

5. Shorter work weeks are coming, which means more time for home use.

6. More than 300,000 homes each year are withdrawn from housing totals because of slum clearance, civic planning, AND OBSOLESCENCE—which will

All this adds up to BETTER markets for home devices.

### Shattering News

The Post Office occasionally bans publications from the mails because they are obscene. In a recent case involving a Los Angeles publisher of a "for men only" comic book, the postal people held up this concern's mail on the ground that it "promised obscenity in its advertising and did not deliver."

Write your own moral.

"We've lived together a long time, Horace. They've been wonderful years. But we must face it. One of us will be passing on soon, and we should make plans."

"Don't think about it, my dear," soothed the old gentleman.

"All right, Horace, I won't. However, when that time comes I do believe I'll move to California."

The Omaha World-Herald reports on its editorial page:

"Young Widder Brown, who for 18 years has battled bankruptcy, blindness, bubble-headed boy friends and innumerable other disasters, became a dead widder last week. NBC entombed the serial, along with such other onetime epics as 'Just Plain Bill,' 'Portia Faces Life,' and 'Life Can Be Beautiful,' the latter known in the trade as 'LCBB,' or 'Elsie Beebe.'"

"Ten years ago there were about 50 soap operas on the air, and some listeners tuned in on 10 to 20 a day. Only 15 remain, and since they are on rival networks at roughly the same time, the surviving addicts must content themselves with six or eight a day.

"The soap opera had—and no doubt still has—a rigid formula. The chief character was generally a woman who faced one disaster after another, and, because she was strong and wise, mastered them—only to be plunged into some new woe.

"There were two explanations for the long popularity of soap opera. One was that the listeners—almost entirely women—found comfort in the fact that the heroine faced troubles unimaginably greater than their own. The other was that they identified themselves with her—which amounts to an allegation that most women want to be omniscient busy-bodies.

"Why has the formula lost its potency? Darned if we know."

"Dope" ventures a thought here:

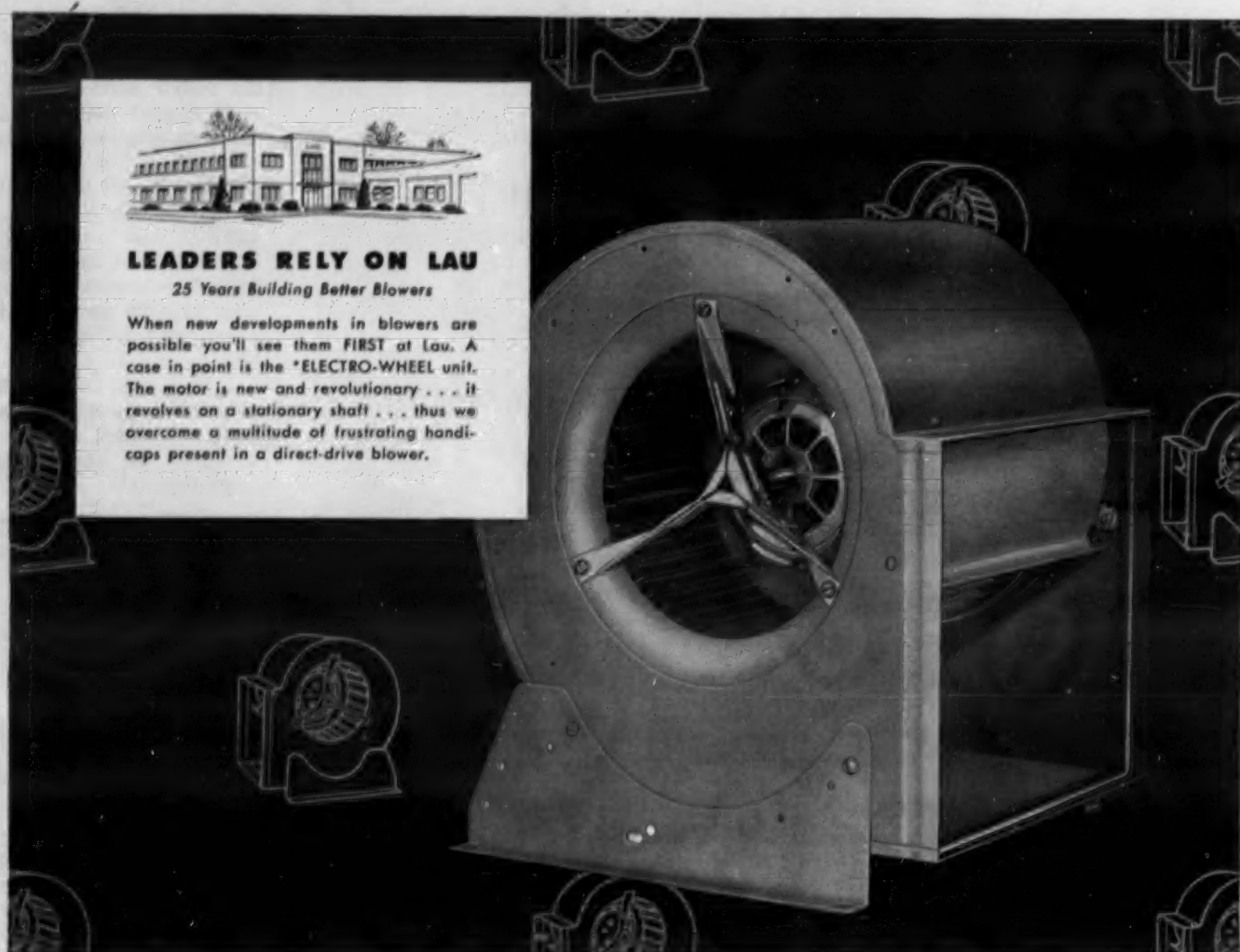
Maybe life is becoming more beautiful for women—what with air conditioning, frozen prepared meals, and home mechanization.

### Final Thoughts

Kindness is a hard thing to give away. It usually comes back to you.—CHRYSLER.

Cheerfulness is the offshoot of Goodness.—BOVEL.

Anybody who robs Peter to pay Paul is probably named Paul.—FRANKLIN P. JONES.



### LEADERS RELY ON LAU

25 Years Building Better Blowers

When new developments in blowers are possible you'll see them FIRST at Lau. A case in point is the "ELECTRO-WHEEL" unit. The motor is new and revolutionary . . . it revolves on a stationary shaft . . . thus we overcome a multitude of frustrating handicaps present in a direct-drive blower.

### FIRST IN THE INDUSTRY



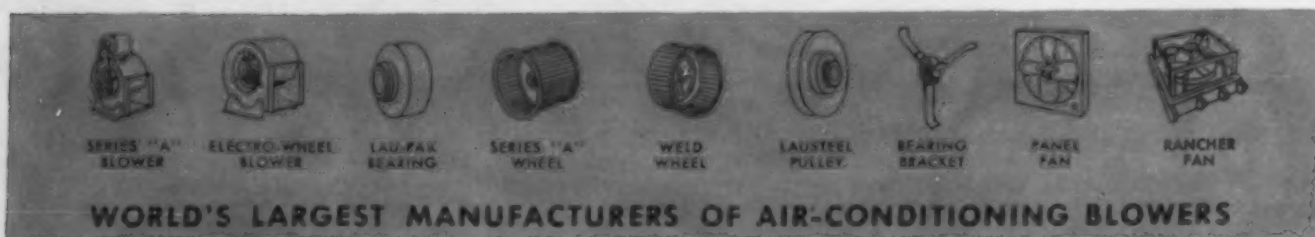
### THE LAU BLOWER COMPANY

2000 Home Avenue • DAYTON 7, OHIO

Other plants at Kitchener, Ont., Canada, and Azusa, California

"ELECTRO-WHEEL" is the name of this new Lau direct-drive blower that will deliver more air with less power load than ever before, because it has unobstructed air inlets on both sides of the wheel. The new, compact motor, an integral part of the blower wheel center disc, revolves on a stationary shaft, rubber-encased on both ends. This means efficient elimination of noise and vibration. And two rigid tripod mountings have minimum interference to air flow . . . give greatest shipping strength. Five sizes: 9" and 10" wheels; air deliveries from 500 to 1500 cfm; ¼ h.p. motor. Available with or without housing supports which may be mounted in pre-punched holes for any discharge angle. Write Lau, Dept. M for further data.

\*Trade Mark



WORLD'S LARGEST MANUFACTURERS OF AIR-CONDITIONING BLOWERS



HOW TO PUT MORE

# OOMPH!

INTO REFRIGERATION and AIR CONDITIONING HEAT EXCHANGERS

Wherever manufacturers are concerned with heat transfer, more and more engineers are depending on Wolverine Trufin—the integral finned heat exchanger tube—for greater BTU extraction. For example, for condensing refrigerants in shell and tube condensers,

THE SECRET?  
WOLVERINE  
TRUFIN®

nothing equals Wolverine Trufin Type S/T. Because its integral fins are squeezed directly from the tube wall, Type S/T has approximately 2½ times the heat transfer surface of plain tube. This means greater BTU extraction per foot of tube and permits the design of smaller, more effective heat exchangers. Type S/T is available in a wide range of sizes and alloys in copper, aluminum and electric-welded steel.



WOLVERINE TRUFIN  
TYPE S/T



WOLVERINE TRUFIN TYPE H/A  
FABRICATED EVAPORATOR COIL

Where water shortages make air-cooled condensers and exchangers necessary, two types of Wolverine Trufin are especially suitable. Both Type H/A (controlled inside diameter) and Type H/R (controlled root diameter) are high-finned tubes—present maximum heat transfer surface for greatest heat dissipation. Their integral fins, like those of Type S/T, can never come loose because of vibration, thermal shocks or pressure variations. Both types are available in a wide range of sizes in copper and aluminum.

Trufin—in its various types—is another example of the specialized products Wolverine has developed for the refrigeration and air conditioning industry. Specify it for increased heat transfer efficiency. For complete information write for the Trufin Catalog.

*Wolverine Trufin is available in Canada through the Unifin Tube Company, London, Ontario.*

DIVISIONS OF  
CALUMET & HECLA, INC.  
CALUMET DIVISION  
WOLVERINE TUBE DIVISION  
CANADA VULCANIZER  
& EQUIPMENT CO., LTD.  
FOREST INDUSTRIES DIVISION  
GOODMAN LUMBER CO.



**WOLVERINE TUBE**

Division of Calumet & Hecla, Inc.  
1413 CENTRAL AVE., DETROIT 9, MICH.

Manufacturers of Quality-Controlled Tubing and Extruded Aluminum Shapes

PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES

EXPORT DEPT., 13 E. 40TH ST., NEW YORK 18, N.Y.



Ideas

—BUY the dozen

1



#### SPUN END PARTS

With its Aluminum and Copper Spun End Processes, Wolverine produces a wide variety of tubular-shaped parts with fully or partially closed end treatments in one economical operation.

2



#### WOLVERINE CAPILATOR®

Tiny, plug-drawn Wolverine Capilator brings precision control to the metering of liquids, gases and air. Capilator is individually flow-tested, is washed and has its ends paper wrapped for absolute cleanliness.

3



#### COPPER-ALUMINUM CONNECTORS

Available in  $\frac{3}{8}$ " and  $\frac{1}{2}$ " tube diameters these handy, prefabricated connectors permit manufacturers to use both copper and aluminum in the same refrigeration cycle.

4

#### EVAPORATOR ASSEMBLY

Prefabricated evaporator sub-assemblies are real time, equipment and labor savers. They are composed of a bunch-type aluminum coil, a one-piece aluminum accumulator and two copper-to-aluminum connectors.



5

#### SERPENTINE COILS

Available in both aluminum and copper, serpentine coils permit manufacturers to place a maximum length of tube in a small area. Wolverine is also equipped to coil, flare, expand, etc.



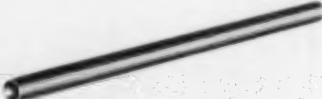
6

#### COMMERCIAL COPPER TUBE

Wolverine produces commercial refrigeration copper tube in straight lengths and coils in a wide variety of sizes and alloys. Wolverine refrigeration tube is dehydrated, is clean, bright and consistent in temper.



7



#### ALUMINUM TUBE

Wolverine aluminum tube is available in a wide range of sizes and popular alloys in both drawn and extruded form. It may be obtained in straight lengths, medium length coils and extra long coils.

8

#### EXTRUDED ALUMINUM SHAPES

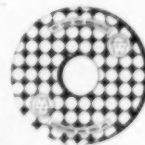
Wolverine extruded shapes are produced to the most exacting customer specifications. Rigidly quality controlled, these extrusions can help manufacturers reduce machining and assembly operations and save on material requirements.



9

#### WOLVERINE ROLL-O-TUBE®

This unique packaging innovation brings new convenience to refrigeration servicemen. Roll-O-Tube contains highest quality Wolverine refrigeration tube in a carton that is easy to handle and which can be used as a reel.



10

#### NEW REFRIGERATION TUBE SEAL

A real boon to the refrigeration serviceman is this unique plastic tube seal. Provided at no extra cost, it is easy to use, gives positive sealing against moisture and dirt and allows the tube to thread easily through partitions.



11



#### WOLVERINE TRUFIN® TYPE S/T

This low finned condenser tube is unexcelled for condensing refrigerants in shell and tube condensers. It is available in copper, copper-base alloys, aluminum and electric-welded steel.

12



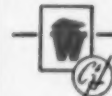
#### WOLVERINE TRUFIN TYPES H/A AND H/R

High-finned condenser tubes provide maximum heat transfer surface for air-cooled heat transfer applications. They are available in many sizes and alloys in copper, and aluminum.

ALL PATENTED PROCESS REGIMS.  
OTHER PROCESS PATENTS PENDING

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& EQUIPMENT CO., LTD.  
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EXPORT DEPT., 13 E. 40TH ST., NEW YORK 18, N.Y.

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

ZONE \_\_\_\_\_

STATE \_\_\_\_\_

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FOR MORE INFORMATION

JUST CHECK THE NUMBER

ON THE COUPON AND MAIL



Plastic Progress Parade

## Floors Incorporating Ducts, Domes, Piping Seen In 60's by House & Home

NEW YORK CITY—Come 1968, plastic domes may be used to cover total living units, including gardens. "Under domes people may live in controlled climates with 'outdoor' living all year-round."

So says a study in the September *House & Home* on present future uses of plastics in home building.

Plastics have already been adapted for more than 50 different uses in modern home building, and are opening up undreamed of possibilities for more and better uses at less cost, according to *House & Home*, professional magazine of the home building industry.

### TIME TABLE FOR DEVELOPMENTS PRINTED

Showing various building products made from 12 main types of plastics that are already being tested or marketed, the magazine also prints a "timetable" of further improvements and new uses that are likely to find wider commercial acceptance over the next dozen years.

These include the plastic domes and the following, among others:

"1963—Full floor units incorporating ducts and wiring. Finish floor on top, finish ceiling on bottom will be strong enough for heavy use on 4-ft. centers.

"1966—Plastics will make possible solar heat and power in many regions. Collecting mats of plastic for storing the sun's energy mechanically or electrically will come on the market."

### PLASTIC PLUMBING NOT WIDELY ACCEPTED

Describing the "skyrocketing" use of plastic pipe, the magazine says, in part:

"But plastic plumbing is so new, even the new national plumbing code does not approve it. The only states that now recognize plastic pipe in water supply systems are Maine and California."

The greatest use of plastic pipe today is on farms (mainly for miles of irrigation lines), in factories, and in individual, privately-owned water and sanitary systems not governed by codes, it is pointed out.

"For waste lines and cold water lines," says *House & Home*, "the only criticisms of

plastic pipe are (1) rats can gnaw through it even easier than they can gnaw through copper, (2) unless properly supported it may sag in vertical runs or under a heavy head of water, (3) plumbers are not yet familiar with its use, (4) drainage fittings, like traps, are not yet on the market, (5) hot water might possibly get into the cold water pipes if the system is not properly installed.

"Advantages the pipe offers are (1) it costs less than any pipe except carbon steel, (2) fittings are easier, and therefore cheaper, to mold, (3) it is flexible, snakes around corners as easily as wiring cable, (4) joints are made simply with a solvent; no threading is needed."

## RACCA Will Meet In Miami Beach Nov. 26-28; Tentative Program Set

CLEVELAND — A tentative program for the 11th annual convention of the Refrigeration and Air Conditioning Contractors Association was announced here by Ray Kromer, executive vice president.

The convention is scheduled for Nov. 26-28 in the Balmoral hotel in Miami Beach, Fla. Armand Cowan, president of the ACRA of Miami, is chairman.

As in the past, the convention program will be light on formal talks and heavy on discussion.

Opening day, Monday, will be devoted to a talk by a representative from the national office of the United Association followed by an audience participation forum on labor. The panel will consist of three contractor and three union representatives.

The Tuesday morning session will consist of a series of 10-minute talks on management problems. They will cover profit sharing plans, bid depositories, maintenance and service agreements, and a national hospitalization and insurance plan.

During the afternoon, a panel of six contractors will conduct a management problems forum.

Wednesday's session will feature a guest speaker who will discuss the importance of national surveys and how to apply national averages to your business. At this time new directors will be elected and the new president will deliver his message.

A feature of this convention will be equipment displays by manufacturers. Displays will be open from 1 to 6 p.m. on Sun-

day and then during afternoon hours when no convention sessions are being held. Monday exhibit hours will be from 3 to 6 p.m.; on Tuesday, 1:30 to 4 p.m.; and on Wednesday, 1 to 5 p.m.

Committee meetings have been scheduled for the Saturday before the convention and a directors' meeting on Sunday.

The entertainment features planned include a splash party on Saturday, a Mexican cocktail party and reception on Monday evening, and a Hawaiian Luau banquet to be given on Wednesday evening.

### Bastian-Blessing Names Goodrich

CHICAGO — E. E. Goodrich was recently promoted to manager of the new sales engineering department of Bastian-Blessing Co. here, according to an announcement by Larry Lucas, vice president.

## New Carrier Machine Creates a New Kind of Ice...

# CHIPS!



Carrier Chipmaster above is water cooled, has 500-lb. capacity. Air cooled model has 400-lb. capacity, at 90 degrees air, 70 degrees water, temperatures. 34" wide x 75" high x 30" deep. Storage bin capacity: 200 lbs. 3/4-hp. hermetic compressor. Models for 110 or 220 volt A.C.

A new, versatile kind of ice... crystal-clear chips... is here to put you in the chips! When ice is as easy to sell as this ice is, then the machine that makes it has "best seller" written all over it, too!

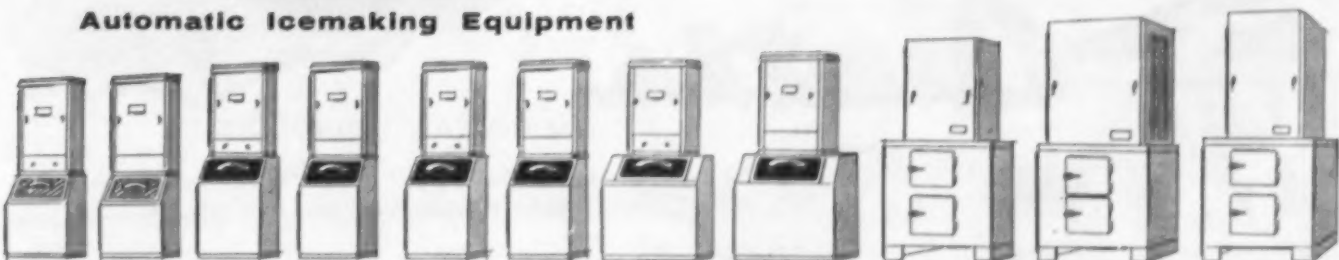
This Carrier Chipmaster is the first and only Icemaker on the market to make thin, flat, clear chips of solid ice... that pack well, are easy to scoop and pour. Scores of uses in icing all kinds of drinks, or in adding appetite appeal to salads, food displays, seafood, meats—in lunch counters, cafeterias, restaurants, motels, hotels, hospitals.

The Chipmaster rounds out the most complete line of Icemakers on the market. When you sell the Carrier line you can give your prospects any kind of ice... including the Icemaker for cubes and three grades of crushed ice... the Flakemaster for dry, extra-cold flaked ice... and the new Chipmaster!

**Certified capacity, too!** Here's your built-in Carrier sales clincher. It's a written pledge that the unit will deliver a specific amount of ice under actual local temperatures of water and air... your customers know exactly what they're getting!



### Automatic Icemaking Equipment



Do you want to get in the chips? Call Carrier! You'll find your Distributor listed in the Classified Telephone Directory. Or write: Carrier Corporation, Syracuse, New York.

### ASPIR-JET SPRAY NOZZLES RAISE TOWER EFFICIENCY

The swirling, atomizing action of the water as it goes through the Aspir-Jet means more effective heat transfer and higher efficiency from any spray-filled cooling tower. Pressure as low as 1/2 pound gives effective water break-up and distribution. Formed of butyrate plastic, Aspir-Jets will not corrode.



Available through Refrigeration and Air Conditioning Wholesalers.

Manufacturers & Refrigeration Wholesalers: if you are not now using or stocking this outstanding new product, wire or write

### THERMAL AGENCY

National Sales Agents  
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## Dealer Crusades for Water-Cooled Equipment Because He Thinks It's Best for Customers

**Water Is Plentiful and Temperatures High In Area on East Bank of Mississippi River**

BELLEVILLE, Ill. — Others may see a trend to air-cooled air conditioning equipment, but L. H. Kiefer here still sells water-cooled equipment hard as the best buy for his customers.

In the cooling business for 20 years, Kiefer, head of L. H. Kiefer Sales & Service, has engineered and installed more than 500 air conditioning installations in southwestern Illinois cities along the east bank of the Mississippi River. More than 90% of them have been water-cooled jobs.

"I decided at the beginning

that there is no commodity more valuable to the air conditioning contractor than the goodwill of his customers," Kiefer said. "As I see it, goodwill comes from selling the equipment which will do the job promised with a minimum amount of repairs and attention."

### 'NOTHING SHORT OF MAXIMUM PERFORMANCE CAN BE TOLERATED'

"In an area such as ours, with substantial water supply and with summer temperature up around 100° F. with 78%

r.h., nothing short of maximum performance can be tolerated.

"For that reason, we push water-cooled air conditioning equipment all the way. We will spend a lot of extra time convincing the prospect that he should buy water-cooled equipment."

### CARRIES 'MISSIONARY' WORK INTO ADVERTISING

Kiefer's favorite "convincer" is to take a merchant who is complaining that his air conditioning is not doing the job he wants to one of his own installations. There is always one not far away. There the prospect can feel the difference in cooling effect for himself.

Kiefer carries his missionary

work for water-cooled air conditioning—with cooling tower—to the public in his advertising.

One Kiefer advertisement, directed to the residential market, devoted half of its space to an exposition of the advantages of water-cooled equipment.

### 'WATER-COOLED EQUIPMENT IS CHEAPER'

Headed, "If You Are Concerned with Total Cost of Air Conditioning, Here Are a Few Facts You Should Know Before You Buy": copy said:

"Water-cooled equipment, including cooling tower, etc., is no more costly to buy than air-cooled equipment of equal capacity and quality.

Water-cooled equipment, with cooling tower, is cheaper to operate than air-cooled equipment of equal capacity.

Water-cooled equipment maintains its cooling capacity even at extremely high outdoor tem-

peratures. Air-cooled equipment loses capacity when outdoor temperatures approach 100° F.

"Water-cooled equipment runs cooler, more quietly, and lasts much longer.

"When you buy air conditioning, you have a right to expect it to last many years. A good water-cooled job will last many years.

"We have air-cooled equipment to sell if you insist on buying it, but for the best job we recommend water cooled.

"If you want a good, adequate, long life job with which you will be happy, proud, and comfortable, we have it.

"If you are shopping for the lowest possible initial cost job without regard for performance or operating cost, we don't have it.

"Please feel free to call upon us with your problems in air conditioning. That is our business and we love it, but we will not abuse it.

"Signed L. H. 'Lee' Kiefer."

OVER **5** MILLION

Curtis prospects...

Your prospects

saw this full-color sales message

in

The Saturday Evening

**POST**

a new, aggressive and continuing national advertising campaign to increase sales of Curtis equipment, this full-color sales message in the Post was driven home to more than 5 million prospective buyers of Curtis packaged air conditioning units.

If you are not a Curtis Dealer, and if you're qualified, now is the time to get started! You'll be selling the world's finest air conditioning equipment, competitively priced, and backed by a promotional-minded, on-the-go manufacturer with a solid 102 years of experience and skill.

Write today, and we'll show you how you can increase sales and profits with a complete, flexible line of Curtis Air Conditioning equipment.

*Refreshing*  
to the Eye, too!

yes...

this beautiful Curtis Air Conditioning Unit deserves to be seen!

...and where water is a problem... here's the answer!

No question about it. The new CURTIS packaged air conditioner is refreshing. It is also silent, dependable, efficient and economical to run and operate. It refreshes by circulating a lot of clean, crisp, dry, cool air.

Available in 6 exciting refreshing colors: BROWN, COLONY, GREEN, TINE, POTTERY, CARMINE, RED, WHITE, GRAY, BLUE, and BLACK.

Remember you can count on our 102nd year **Curtis**



Packaged air cooled air conditioning units



Packaged liquid chiller up to 100 tons



Industrial air compressors



Auto Lift single & two posts

MANUFACTURING CO.

Refrigeration Division

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CM-15

### E. L. Freemire Will Represent McQuay In Baltimore Area

MINNEAPOLIS — McQuay, Inc.'s appointment of E. L. Freemire as heating and air conditioning representative for Baltimore and surrounding areas of eastern Maryland has been announced by H. Blake Thomas, executive vice president.

E. L. Freemire has wide experience in the air conditioning and refrigeration fields, having served in the Army Corps of Engineers and more recently as vice president of Energy Control Co., Philadelphia, prior to establishing his own business in 1953. He is a graduate of the University of Maryland College of Mechanical Engineering.

### York Div. Names Reid Engineering Manager

YORK, Pa.—Appointment of John G. Reid as engineering manager, absorption systems, has been announced by R. K. Serfass, vice president and general manager of the Industrial Div. of York Corp., a subsidiary of Borg-Warner.

Reid comes from the Crosley and Bendix Home Appliances Div., Avco Mfg. Corp. At Avco, he was manager of air conditioning engineering for five years following 11 years as mechanical research engineer on absorption systems at Servel, Inc.

### Drayer-Hanson Appoints Randall Sales Trainee

LOS ANGELES — William Randall was recently appointed as sales engineering trainee at Drayer-Hanson, Inc., division of National-U. S. Radiator Corp., according to Fred E. Schmuck, national sales manager.

Third recent internal advancement of an employee to a sales post at this plant of the air conditioning and refrigeration manufacturer, Randall assumes his post from the inspection division, it was explained.



## Firm Builds 2-Room School To Test 'Comfort Curtain' of Fresh, Heated, Cooled Air Which Blends Continuously

DES MOINES, Iowa—John W. Norris, president of Lennox Industries, Inc., recently broke ground for a two-classroom school building intended to test Lennox' new "Comfort Curtain" heating and fresh air system designed to produce maximum classroom comfort at minimum cost.

Built and financed by Lennox Industries, Inc. as a research project, the completed school will be turned over to the public school system to house regular classes about the first of the year.

Summer cooling equipment will be installed later.

### To Market Equipment After Test

The "Comfort Curtain" is the result of four years of intensive research into the problem of classroom comfort. The equipment will not be marketed, however, until completion of the Des Moines test, according to the manufacturer.

"Successful completion of the system will offer many outstanding benefits," said Norris. "It will mean comfortable classroom temperatures regardless of the weather outdoors and the number of students in the room plus continuous circulation of fresh outside air throughout the room during all seasons of the year.

### 'Eliminates Hot, Stuffy Atmosphere'

"It is hoped that this will contribute much to the learning ability of the students and the comfort of teachers," he added, "since it eliminates the familiar hot stuffy atmosphere.

"We anticipate also that the blending of fresh air with heated air, combined with even—never-to-hot, never-to-cold—temperatures will minimize the transmittal of colds and diseases among the children."

Lennox feels that their system, which controls heat to a fine degree and blends fresh air with heated air continuously in varying amounts determined by demand, can be installed at a considerable savings to school boards throughout the country.

### Units Can Be Serviced By Heating Dealer

Another important factor is that the equipment can be serviced by the ordinary residential heating dealer in the same way as the automatic heating equipment in the home.

"We have carried out this design as far as possible in our engineering laboratories," said Norris, "so we are building this school and asking the cooperation of the education department to use it just as they would any other school.

"This will give us an opportunity to iron out any on-the-spot control problems in our equipment, as well as actual experience in just what the system will mean to students and teachers."

Norris pointed out that an occupied school room is more often a cooling problem than one of heating.

"Once the pupils are in the



ARCHITECT'S model of Lennox Industries, Inc.'s new research school building is displayed by John W. Norris, president. Regular grammar and high school classes in Des Moines, Iowa, will permit testing of Lennox "Comfort Curtain" heating and ventilating system.

room," he said, "the heat they produce, heat from lighting, and in certain exposures, heat from the sun, all combine to exceed the heat total required for comfort.

"Because of this situation, the Lennox system is designed to make almost instantaneous changes from maximum heat

with the result that a heretofore unheard of temperature control becomes possible.

"Our target has been to develop a degree of air freshness and freedom from drafts never before attained with any conventional school heating-ventilating system."

To expose their new system to extremely difficult conditions in

the test school, the Lennox engineers deliberately orientated the building to produce real problems in heating and ventilation.

The school is not only exposed to excessive heat from the sun (maximum window area is along the south side of the building) but also to severe cold temperatures and high wind velocities.

One classroom of the school is designed on a scale for second-grade students and the other for high-school students—the intention being to obtain a cross section of student reactions by having both primary and secondary school students take part in the test.

Occupancy of the school should take place at the beginning of the second semester, February of next year, and sufficient results are expected within a year after that time to consider this phase of the testing completed.

## Janitrol Appoints Robert Sandusky

COLUMBUS, Ohio—The appointment of Robert Sandusky as district manager for the Omaha territory of the Janitrol Heating and Air Conditioning Div. of Surface Combustion Corp. was announced here by H. C. Gurney, Janitrol sales manager.

Sandusky will direct sales and service activities for the complete line of Janitrol residential and commercial heating and cooling equipment. His territory will include Nebraska, Iowa, central and southeastern South Dakota, and northwestern Kansas.

Sandusky has been associated with Janitrol since 1946, and for the past seven years has been serving the firm as a sales representative in the Columbus district office.

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Wherever you are—from coast to coast—there's a "genetron" wholesaler as close to you as your telephone. When you order refrigerants, always ask for "genetron" super-dry refrigerants!

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## ARI Planning To Publish Cooling Load Estimate Form Separately

WASHINGTON, D. C.—In response to requests from architects and engineers in all parts of the country, Air-Conditioning & Refrigeration Institute will make available separate copies of the "cooling load estimate form" first issued in August as a part of the new ARI Standard 530, an application standard for air conditioning multi-zone buildings, it is announced by Geo. S. Jones, Jr., managing director of ARI.

The new standard, single copies of which were sent to leading engineers and architects in the country, has met with widespread acceptance, and copies are being ordered in volume quantities by the men who design and construct multi-zone buildings, such as factories, office buildings, and similar

structures in which varying degrees of cooling and humidity must be maintained.

Typical of their comments:

"May we compliment you on a very fine piece of work that appears to have many of the answers we are looking for."

"We regard this as an excellent piece of work as it presents for the first time a concise brochure on design factors for the air conditioning industry."

One engineer who is also an instructor in a Texas university ordered 50 copies of the standard for use of his students in a course in refrigeration and air conditioning.

All of the commendatory letters received included an order for additional copies of the standard and many of them asked if separate cooling load

estimate forms were available, as only one form was bound in the standard itself.

In making known its decision to print for distribution separate forms, ARI pointed out that the forms themselves are of little value without the standard, since the tables of calculation and the varying factors for estimating cooling loads are printed in the standard itself.

The forms, it was said, will be printed and bound in pads of 50 forms each, and will be available at \$1 per pad. The standard is priced at \$1 per copy.

### National-U. S. Moves Pittsburgh Office

PITTSBURGH — The Pittsburgh branch sales office of the heating and air conditioning division of National-U. S. Radiator Corp. has moved from 125 First Ave. to 2666 W. Liberty Ave.

## NAPC Committee Plans Advertising, Editorial Mat Service for Local Use

WASHINGTON, D. C.—Development of a plumbing, heating, cooling program which will be effective at the local level will be undertaken by a new committee formed by the National Association of Plumbing Contractors.

The new committee, called the NAPC all industry committee to expand plumbing-heating-cooling, held its first meeting here recently.

It decided to ask the association's public relations department to develop an advertising and editorial mat service. Such a service will help local associations develop more effective promotional programs, according to committee chairman E. R. Buchi of the Buchi Plumbing Co., Nashville, Tenn.

The new committee is a consolidation of three former committees—trade promotion, industry development, and all-industry.

It will continue to cooperate in every way with wholesaler segments of the industry, Buchi said.

Buchi appointed two committee members to coordinate activities involving other groups.

Roy T. Gustafson of T. D. Gustafson Co., Minneapolis, will serve as coordinator in seeking certain changes in the standard contract documents of the American Institute of Architects.

Dell Peterson will act in a similar capacity with the committee on Operation Home Improvement and "special month" planning.



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AMERICAN BLOWER  
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INSURE A SUCCESSFUL  
INSTALLATION EVERY TIME**

**1**

The American Blower Packaged Air Conditioner is performance-proved, and packed with the features your customers demand. It cools, filters, dehumidifies, circulates, even heats with the addition of heating coils, and operates quietly. Easily installed with or without ductwork. Sizes from 3- to 20-tons satisfy the cooling requirements of all average installations. And there's a 5-year factory warranty on entire refrigerating circuit.

**2**

American Blower's 75 years' experience and skill as a leading producer of air handling and conditioning equipment stands behind each Packaged Air Conditioner. The American Blower trademark is your guarantee of quality, and your customer's assurance of years of trouble-free air conditioning. Get all the details today. Call our nearest branch office or write: American Blower Corporation, Detroit 32, Michigan.

LOOK FOR OUR PHONE LISTING IN THE YELLOW PAGES

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Division of AMERICAN-STANDARD

Packaged Air Conditioners—that cool without chilling

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Choice protected territories still available, without investment in carload lots or tie-in products. Call or write today.

### 100-Year-Old St. John's Cathedral Gets Air Conditioning

LAFAYETTE, La. — Picturesque St. John's cathedral, 100-year-old landmark in the heart of the Teche country here has been completely air conditioned for year-round use.

Ro-Co Equipment, New Orleans air conditioning and heating manufacturers' representative sold the job prior to the peak of last summer's heat, it was disclosed. Beaulieu Air Conditioning and Heating here installed the Drayer-Hanson equipment.

Church officials indicated full satisfaction with operation and performance of the units, states Howard J. Rosen of Ro-Co.

Two types of D-H air conditioning units were installed, says Rosen. A "Deluxe" cabinet model "Spotaire-HRC 126" unit was placed in the Sacristy. It is a fully-housed blower-coil-filter type, ceiling suspended. It is said to feature draftless air distribution.

In both right and left-hand service sections adjacent to the main chapel, two D-H air handling units, "HHV-219's," provide complete heating, cooling, ventilating, and filtering, it was explained.

These heavy, floor-mounted cooling models are matched with a remote Servel gas-absorption unit, and connected to a Bryan Steam Corp. boiler for the heating cycle.

This locale was "immortalized" in *Evangeline* by Henry Wadsworth Longfellow.

### New Kroger Store To Get Year-Round System

ST. LOUIS—Featuring year-round air conditioning, the latest supermarket in the Kroger Co.'s 1956 "Parade of Progress," a new one at Thirty-ninth and Blaine Ave., is nearing completion and will open in the latter part of 1956.

The super will be an entirely self-service store with an actual store area of 10,500 sq. ft. Features will include refrigerated meat, produce, and dairy display cases, and a beverage sales room.



## Firm Makes Unusual 'Climate-Controlled' Equipment

**Includes 'Bug Chambers,' Quail-Egg Study, Constant-Temp Resin Storage, Orchid-Treating Rooms; Mortuary Units; Oil-Flow Boxes**

FORT WORTH, Texas—Making refrigerated storage rooms for markets and warehouses is the main business of the Charles L. Needham Mfg. Co. here.

### Studies Problems, Turns Out Special Units

But Needham's willingness to study the specialized problems of manufacturers, chemists, agricultural scientists, and others has resulted in his plant at 4708 McNutt turning out some unusual "climate-controlled" equipment.

Like the four "bug chambers" used at the U. S. Department of Agriculture laboratory in Brownsville for observing crop pests as they go through their life cycles.

Or like the two small rooms ordered by Texas A&M's poultry husbandry department for conducting studies of quail eggs at different temperatures.

### Has Had Only One Refrigeration Course

Needham has taken on such special assignments as making units for mortuaries and building boxes in which the flow of an oil company's product could be studied at 35°, 0°, -15°, and -35° F.

A former member of the Bureau of Air Commerce and a naval pilot and instructor during World War II, Needham formed his firm—his first business venture—ten years ago. Since then, the plant has made more than 12,000 refrigerated units for use in 15 states. As of a recent date, the company's employees totaled 31.

Needham does his own calculating and inventing, although he has taken only one special course—a refrigeration course offered by the Fort Worth public schools. And that was back in the early 1930s. Needham says he learned the rest as he went along.

It was in 1952 that Needham was asked to make a bug-study

chamber for the Brownsville USDA laboratory. The lab wanted such a chamber so etymologists could watch the life-cycle activities of boll weevils, fruit flies, and other crop pests. He was told that the climate in the chamber would have to exactly duplicate that of the bugs' natural habitat.

The chamber was completed in 1953. Three others were built later for the laboratory. Needham said the units have been valuable aids to research which resulted in data used in control of crop-eating bugs.

The chambers have two small glass windows which enable etymologists to study the pests as they pass from pupa to larva

to adult, forage in life-like cotton fields or tropical orchards, multiply, and die.

By a "twist of a knob," the scientists can duplicate a sleet storm, fog, rain, or sunshine in the chambers. A timer installed by Needham can be set so that the time of "sunrise" and "sunset" will conform to astronomical charts for the habitat area, changing automatically day by day as the "season" progresses.

Another of Needham's special orders came from Convair. It was for a constant-temperature room for the storage of resins used in aircraft plastics.

This was a particularly tough assignment, Needham noted, because of the resin's unusually

high latent heat. He said this is like cooling hot watermelons.

A few years back, at the request of a California florist, he designed a box to keep orchids at 42° F. and 80% relative humidity during shipment.

For an Amarillo frozen foods warehouse, Needham constructed a 32-ft. wide by 100-ft. long by 10 ft. high freezer for holding food at -15° F.

### Standard of Indiana Plant To Dewax Lubricating Oil

CHICAGO—Standard Oil Co. of Indiana will build a plant at Whiting, Ind. for dewaxing lubricating oil, it was recently announced.

Typical uses for wax-free oils which flow at temperatures as low as 70° below zero are as refrigerator oils, transformer oil, and special lubricants such as sub-zero engine oils for military arctic uses.

### N. J. Dairy Fined for 'Giving Away' Units

TRENTON, N. J.—In informal hearings held here recently by the Office of Milk, State Dept. of Agriculture, Farmland Fair Lawn Dairies, Inc. was fined \$600 for the free distribution of refrigeration equipment to retail dealers.

The fine was assessed after a guilty plea by the Bergen County dairy, according to Floyd R. Hoffman, director of the Office of Milk.

### R. C. S. Tool To Move to New Bloomington Location

JOLIET, Ill.—On Nov. 1, the R. C. S. Tool Corp. will move to its new location at 227-229 E. Front St. in Bloomington, Ill., James A. Kinsella, vice president, announced recently.



## Here's why it pays to ask for Anaconda by name

1. Anaconda Refrigeration Tube is 99.9% pure copper, phosphorus deoxidized—clean—dry—made to meet A.S.T.M. Specification B280-55T. It stands up in service.
2. Anaconda Refrigeration Tube is consistently uniform in gage, size, temper—easy to work with.
3. Anaconda Fittings, Vibration Eliminators, and Tube are built to match—for fast, easy installation.

4. All these extra values are yours—just by asking for Anaconda by name.

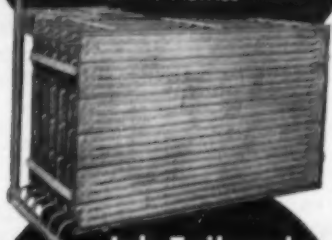
See your Anaconda Distributor, The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

**ANACONDA®**  
**REFRIGERATION PRODUCTS**

For more information about products advertised on this page use Information Center, page 24.

## DEAN COLD PLATES for Ice Bank Air Conditioning

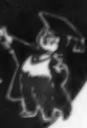
MANY SHAPES MANY SIZES  
MANY METALS



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first cost and in operating  
costs. Write for catalog.

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## 3 Types of Heating, Cooling Installed In Offices To Help Customer Decide Which He Wants In New Building

ALEXANDRIA, Va. — Three different types of combination heating and cooling systems have been installed in the offices of the American Machine and Foundry Co. here by Wilson Supply Co., Inc., Washington, D. C. Airtemp distributor.

"The three different systems were installed as an experiment," says Alexander MacLean, vice president of the company. "I wanted to find out which system was most satisfactory to the client. The one they like the best will be installed in some new buildings they are constructing nearby."

Using three different systems was made possible by the type of construction used for the offices of the company. They are located in a large brick build-

ing that is divided lengthwise by cement block walls. Thus, if the need should ever arise, each subdivision could be leased out as an individual office or store.

One of the sections is two stories, but the other four are single story.

The two-story section is cooled by a 3-ton and a 5-ton air-cooled unit connected with a warm air furnace. This particular section is subdivided into individual offices. Air is distributed above a furred-in ceiling by duct to the various offices.

The next section is cooled by an 8-ton, air-cooled unit hooked up with a boiler and hot water coil for heating.

This unit is located at the rear of the building. The main

duct runs more than 100 ft. toward the front through completely open office area, with short branches running off to either side.

In the other three sections, two 10-ton and one 15-ton package units are ducted to ceiling mounted unit heaters. The fans have been removed from the unit heaters so that they are actually being used as duct heaters, MacLean explained.

The packaged units are installed toward the rear with the overhead duct extending toward the front along a side wall. All air is discharged from the same side of the duct.

The three packaged units are self-contained. The 3, 5, and 8-ton units used remote condensing units mounted behind.

## Egg Production, Hatching Rate Rises With a Constant 60° Temperature

MILLTOWN, Ind. — A novel change from laying hens roaming at will around the barnyard was set up near here when A. J. Martin, of Ramsey, located his 25,000 fowl in a four-acre cave in an abandoned quarry to give them air conditioned comfort.

An extension of the trend in modern hatchery operations that sets up controlled conditions for hens rather than allowing them to scratch their way around the barnyard, Martin reasoned that a big, empty underground area would be an ideal site for providing his birds with year-round steady temperatures.

He noted that egg volume increased under controlled conditions, so he moved the big flock into the abandoned cave.

After two years of operations, the results have sustained Martin's theory.

Percentage of eggs hatching during the hatching season, and constant high level of market eggs have kept up regardless of season.

Martin modified the cavern with 10 ventilating fans to provide fresh air, while 40-watt bulbs in daytime and 7½-watt bulbs burn at night to encourage additional feeding.

Tunnel entrances are walled off with cement and sealed doors help keep uniform conditions.

But no refinement is made of the basic raw material of the cave—a constant 60° temperature. That's what, in Martin's opinion, makes it desirable for hatchery operations.

Percentage of eggs hatched has jumped 20 to 25% as the practice of placing newly laid eggs in warmer temperatures can now be avoided, it was pointed out.

Normal summer slump in laying also has disappeared, Martin said. In the cave, 185 ft. below the surface, seasons do not exist.

## DeLorenzo Promotion Announced by G-E

BLOOMFIELD, N. J. — Appointment of F. C. DeLorenzo as manager of advertising and sales promotion for the General Electric Commercial & Industrial Air Conditioning Dept. has been announced by W. F. R. Karsten, manager of marketing.

Prior to his new position DeLorenzo was supervisor of advertising and sales promotion. From 1951 to 1953 he headed the publicity operation for the company's Air Conditioning Div. He joined G-E in 1948 as editor of the employee newspaper here.

A graduate of Rutgers university, he was a member of the Associated Press in the Newark Bureau.

## Office Building and Shopping Center To Be Air Conditioned

DETROIT — A \$15 million fully air conditioned office building and shopping center was announced recently here by James B. Grant, executive vice president of H. M. Seldon Co.

The Seldon Co. will be agent for the 11-story structure and its surroundings on a nine-acre plot at W. McNichols and Meyers. Offices will total 600,000 sq. ft. of floor space for physicians, dentists, and others.

Construction will begin about Jan. 1, Grant said, for "Sun Valley Square," which will have a central lagoon, landscaping, exclusive shops, and restaurants. There will be parking space for 2,000 cars.

## Martin Joins Airtemp

DAYTON—R. S. (Bob) Martin recently joined Airtemp Div., Chrysler Corp. as west coast region district manager, according to F. J. Laughna, director of regional operations.



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"WHERE'S THE FINANCE  
IN THE FRANCHISE"  
BLUES?

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LISTEN to what others say, then ask them to match these G-E Financing Plans—covering G-E's complete line of floor and ceiling packaged air conditioners.

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**Installation Plan.** You get your equipment cost when your customer signs the order and the balance of selling price when installation is completed. Your working capital goes further...your credit remains good—and you pay no interest charge.

**Customer Payment Plans.** (1) Easy Payment Plan for customers low on cash; (2) Skip Payment Plan for more pre-season sales; (3) Pay-As-You-Profit Plan with payments during hot months when G-E units are in use; (4) Earned Depreciation Plan with longer, more flexible terms for large installations.

CALL your G-E Packaged Air Conditioner distributor for the full story of a G-E dealership, or write: C. J. Rigby, General Electric Company, Commercial & Industrial Air Conditioning Dept., 5 Lawrence St., Bloomfield, N. J.

## Packaged AIR CONDITIONERS

Progress Is Our Most Important Product

GENERAL  ELECTRIC

For more information about products advertised on this page use Information Center, page 24.



## Engineer Advises Service Engineers on Residential Air Conditioning Installation Practices

BOSTON—Remote condensing unit systems aren't the "right answer" for residential air conditioning, personally believes Fred B. Seel, assistant manager of engineering for Worthington Corp.

"The manufacturer doesn't have complete control over the installation of such units, and with dealers becoming less and less capable of servicing units because there aren't enough competent servicemen, there will have to be more self-contained rather than remote units," he told the educational forum sponsored here by the Refrigeration Service Engineers Society.

### WARNS AGAINST COMPRESSORS ON STUDS IN ATTICS

Reviewing his experience in the residential field, Seel also cautioned against installations of compressors on attic studs.

"There is always some part of the house construction that vibrates in resonance with the compressor, and noise, of course, must be eliminated in residential systems."

Locating an air-cooled condenser in the basement is questionable practice, too, Seel indicated.

"Air-cooled units need a lot of air. If they aren't ducted for intake air, they'll pull the fire out of a fireplace. But if ducts are provided, there will be at least some duct noise," he said.

### COMPARISON OF 3 BASIC TYPES OF UNITS

Seel also made comparisons of the three basic types of year-round residential units on the market: twin, parallel flow, and series flow designs.

The twin unit, which has completely separate cooling and heating systems, each with its own blower, is the most expensive but the most versatile for nationwide distribution, he said.

Because the cooling and heating systems are separate, an almost endless combination of sizes is available to meet requirements in various parts of the country, Seel explained.

Parallel flow units are less expensive since they have only one blower. Dampers are required, however, to change from cooling to heating so that the heat exchanger is by-passed during the cooling season.

Series flow units likewise em-

ploy only one blower, but because they have a ceramic-coated heat exchanger in the furnace section, cool air can be passed over the heat exchanger without danger of its rusting, Seel said.

More widespread use of the ceramic-coated heat exchanger is likely to come in the future, he predicted. It could cut costs as well as solve humidity problems, he indicated.

This humidity problem, Seel said, is usually limited to areas of high humidity and is more pronounced in gas-fired equipment than in oil burners.

"Gas-fired equipment requires large secondary air openings. These permit a large air flow down the chimney and across

the heat exchanger and burner, which can create humidity problems."

With add-on residential cooling units, the No. 1 problem, according to Seel, is still insufficient air delivery for air conditioning.

"We may have two-speed motors eventually to solve this problem," he said.

The five-year warranty offered on residential units was also questioned by Seel, in view of the fact, he said, that certain components in the system may not hold up that long.

Capacitors, for example, have a shelf life of only nine months, although their life in use is somewhat longer than that," Seel said.

### Installs Heat Pump In Summer Cottage For Year 'Round Use

DETROIT—Most unusual installation of a heat pump in the Detroit area was made in a summer cottage on Harsen's Island in nearby Lake St. Clair, according to Gene Cuneo, commercial sales manager for the George L. Johnston Co., "Weathertron" distributor here.

Cuneo said that a Detroit electrical contractor bought the unit for his summer home there because he also used it for entertaining during the winter.

He wanted something completely automatic so that he could switch it on before a party and when the party was over, pull the switch and forget about it. The heat pump seemed to him to be the ideal unit for that use—and so it has worked out.

### Fraser & Johnston Names Distributor

SAN FRANCISCO—Fraser & Johnston Co., west coast manufacturer of gas-fired, forced-air furnaces and air conditioning equipment, has announced the appointment of Herlin Eng. Co. of El Paso, Texas, and Albuquerque, N. M. as its newest distributor.

The manufacturer said the appointment is in line with its policy of aggressive distributor representation in areas served by natural gas. Geo. H. Jackson heads the distributorship.

Fraser & Johnston also reported that for 1957 all belt-driven Fraser & Johnston furnaces will have AGA "High-Static" approval, for use with air conditioning coils. The company makes "Lo-static" air conditioning coils to exactly match its furnace line.

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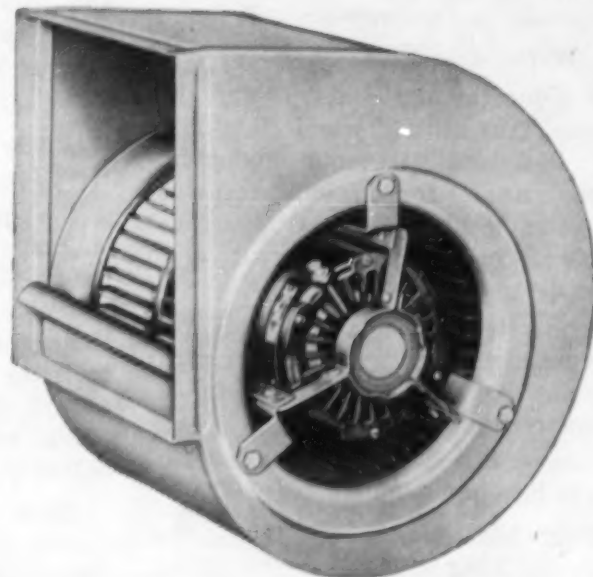
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VOLUME 79, No. 7, SERIAL No. 1,439, OCTOBER 15, 1956

They'll  
Do It  
Every  
Time  
by  
Jimmy  
Hatlo



## Here's a Great Opportunity To Insure the Future of Your Industry and Business

(Concluded from Page 1)

we are a long way from having earned complete consumer confidence. This situation is an analogue of the aforementioned "growing pains," and is common to any industry at this stage of the game. Even so, its historical excusability doesn't help us to march forward at the rate of speed we could and should achieve.

But hurrah! Be of good cheer.

At one fell swoop we can scoop all three dilemmas and put them into one promising hopper. Here's our golden opportunity, in quick outline:

Purdue university, which harbors the biggest (and one of the most respected) engineering college in the world, is setting up a research center for basic investigations into refrigeration, air conditioning, and the effects of controlled climate on humans, plants, and animals.

Dynamic Purdue President Fred Hovde (who was a smart quarterback for Minnesota U. as an undergraduate, and now is a renowned scholar and administrator) proposes to lead able colleagues on a quest to discover new frontiers and new principles for our industry.

And the good Lord knows we need both.

Way back in 1929, when Fred Hovde was a stellar football player, the writer of this editorial was baptized into the refrigeration industry. At that time its three chief technological problems centered around:

Noise, Water, and Dirt.

Today, a quarter of a century later, this Troublesome Trio still is worrisome. That recurrent fact indicates our industry's tremendous need for basic research. Hitherto we've been too busy with momentary problems to pay much attention to long-range development.

Above and beyond such past and present problems is the challenge of investigations into new spheres of endeavor. Fundamental research question:

How can controlled climate alter Nature for the benefit of human beings?

Somebody has said that refrigeration and air conditioning still are in the oxcart stage of development. And the industry's awarest scientists will agree with Sir Isaac Newton who, when acclaimed for postulating the Law of Gravity, sighed: "I feel like a child picking up pebbles on a beach while

the great Ocean of Knowledge lies undiscovered before my eyes."

Refrigeration systems still are highly complicated assemblies; basically they have altered little in 30 years. Refinements, sure, but no "break through."

If it is enabled to go ahead with its proposed Research Center for Refrigeration and Air Conditioning, Purdue university scientists might provide us with atomic "break throughs." (Of that "enabling" act—and how all of us can help—more later).

Our industry's second Big Problem, lack of trained and talented manpower, also could be ameliorated and assuaged by the Purdue project. Although internationally famed for its research revelations in many fields of science, this great university's primary job is that of educating bright young men and women.

In the process of experimenting with and studying refrigeration and air conditioning at the Purdue Research Center, thousands of well-trained American youths will be released for proselytization by readers of this publication.

After graduation (and some will have Ph.D.'s) they will fan out throughout our industry. Some will work for manufacturers; many more for contractors and dealers; others will teach oncoming generations of climate-control scientists. Together they will fertilize and cross-pollenate the thinking and actions of the refrigeration and air conditioning business, and imaginatively accelerate its growth.

Now as to the third sticky dilemma: Integrity.

To Purdue's President Hovde, "integrity" is the most important word in the English language. And his staff of educators nobly reflect that attitude. Moreover, the world-at-large respects Purdue's reputation. Hence, any and all research findings which emanate from Purdue's Research Center should be unquestioned by the general public, as well as by mavericks in our own industry.

How can any reader of this editorial help Purdue university advance his own fortunes and future? ANSWER:

Contribute dimes and dollars to the Purdue Research Center Fund, in care of Ralph Morgan, Lafayette, Indiana.

Already a \$300,000 building has been

erected (a gift of the Herrick Foundation and Tecumseh Products Co.). Also, Purdue is applying \$252,500 of its own funds to defray part of the cost for research operations (in staff salaries and supplies) for three years of operation.

Sought from the industry is \$315,900 in grants of money and equipment to furnish instrumentation for research activities over a three-year period.

Individual companies are invited to participate in one (or a combination) of these three different methods:

- (1) Providing financial support for the basic research program.
- (2) Providing equipment for use in research at the Center.
- (3) Arranging for specific research, on a separate contract basis, for some individual problem that the contributing company might submit.

Among the specific benefits which sponsoring industry companies will receive are the following:

Contact with graduate students who will work on the various projects, and an opportunity to interest these men in careers with your firm.

Advance information of all developments within the Center will be available to sponsors.

Basic industry research information developed at the Center will be made available to sponsors on a regular basis.

Should any patentable information be developed, each sponsor will receive a free, non-transferable, non-exclusive license on such patents.

Pinpoint research aimed at a specific problem can be contracted for at any time. During the progress of these investigations, reports will be made only to the individual sponsor.

Already this academic research and manpower-training center for our industry owns a building. Already eager youths are enrolling in specialized classes. But the building needs equipment, the students need more professors, and Purdue needs more money to conduct the program.

From now on the happily predicted results are up to YOU—Mr. Contractor, Mr. Jobber, Mr. Medium-Sized Manufacturer, and Mr. Giant Corporation Director. If you're wise you'll "kick in" to protect your investment in your own business, to assure a continuing supply of technicians you need so badly, and to stir up a broth of new uses for temperature control equipment.

It may be predicted that every dollar you contribute eventually will come back to you with a ten-spot attached.



## Elevator Shaft Holds 2 Packaged Units



INTERIOR of the modern Levitz Furniture Co. store in Pottstown, Pa. Duct attached to the ceiling and wall connects with 30-ton Airtemp packaged air conditioner located in the elevator shaft at the rear of the store.

### 30-Ton Units Condition 3-Floor Furniture Store Without Using Show Space

POTTSTOWN, Pa. — A dust-gathering, no-longer-used elevator shaft was returned to service recently when Levitz Furniture Co. modernized its store.

But, though reactivated, the shaft is no longer used for customary transportation purposes. It has, instead, become the home for two large "packaged" air conditioners which provide customers with 60 tons of cooling.

When air conditioning was added this summer, a pair of 30-hp. (Airtemp model 2530) packaged conditioners were installed in the shaft space—one unit on the first floor and a twin on the floor above.

#### UNITS CONNECT WITH STORE-LENGTH DUCT

Each unit connects with a ceiling-attached duct which spans the length of the store. A take-off from the main floor duct supplies the basement level with air conditioning—so that the two compact pieces of equipment provide three floors of cooling.

By employing the packaged conditioners and placing them in the unused space, Levitz was able to add air conditioning without major store alteration and without subtracting valuable floor display area.

Levitz Furniture, owned by Leon and Ralph Levitz, consists of three stores—all air conditioned.

In appraising what the new cooling has meant to the Pottstown store, Leon Levitz cites in his comments a few of the reasons why similar modernization involving air conditioning is expected to reach another record figure this year.

#### 'COOLING INCREASES TRAFFIC, HOLDS CUSTOMERS LONGER'

Speaking of the results of air conditioning, he says: "Our traffic has increased. We are able to hold customers longer, resulting in higher unit sales. Our store is much cleaner, reducing losses, and our employees are efficient and productive."

Air conditioning equipment for the Levitz store was furnished by S. S. Fretz, Jr., Philadelphia. Installation was made by Pottstown Refrigeration & Ventilating Co.

**FURNAS ELECTRIC CONTROLS** do the best job for  
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## Koch Names Smith In Mid-South Area

KANSAS CITY, Kan.—Koch Refrigerators, Inc. here has announced the appointment of Harold V. "Smitty" Smith as the new district representative in its mid-south territory.

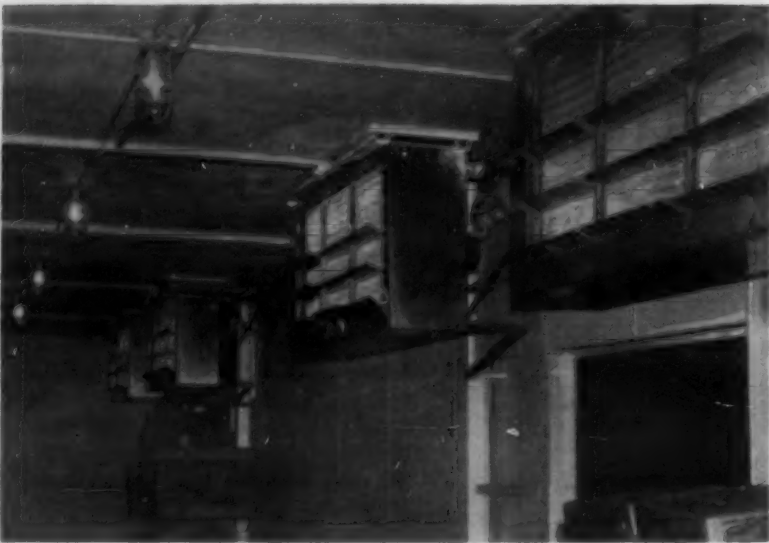


During the past seven years Smith was district sales manager for Sanitary Scale Co. in approximately the same territory he will be servicing for Koch.

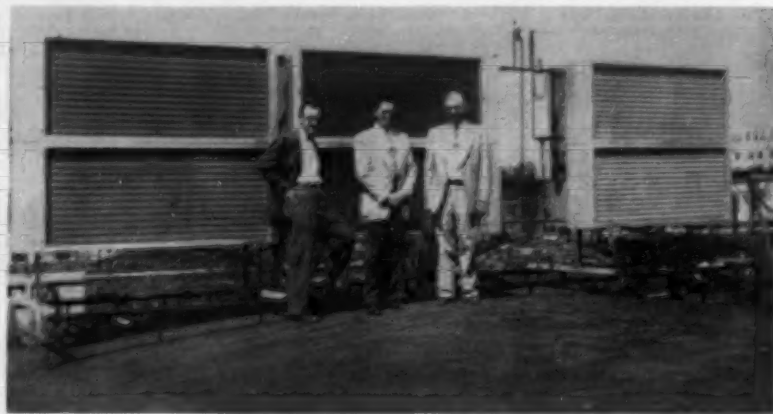
Smith is well-known nationally in weights and measurements circles, and presently holds the office of vice president of the Kansas Weights & Measurements Association.

Smith attended the University of Nebraska.

## Grocery Chain's Frozen Food Warehouse Installs 110 Hp. of Air-Cooled Equipment



CEILING-MOUNTED Kramer Thermobank evaporators in the 9,000-sq. ft. frozen food warehouse of Standard Grocery Co., Indianapolis are a space saving feature of the building, which is refrigerated with 110 hp. of air-cooled equipment. Standard supermarkets have their own walk-in storage freezers for reserve stocks to enable economical scheduling of frozen food deliveries.



ROOF-MOUNTED Kramer Unicons with Winterstats for year-round head pressure control were installed recently at Standard Grocery Co.'s Indianapolis frozen food warehouse. Shown with the units are Ed Hunter; B. T. Ramsey, Standard's construction supervisor in the area; and Russ Duncan of Duncan Supply Co.

### Storage Space Allows Larger Quantity Buying

INDIANAPOLIS — More than 9,000 sq. ft. of new frozen food storage space in the Standard Grocery Co.'s Maryland St. warehouse here is being refrigerated by 110 hp. of air-cooled equipment.

Four large storage rooms, designed to hold -5 to -10° F., are cooled by four compressors of 50, 30, 20, and 10 hp. connected to Kramer Trenton "Unicon" air-cooled condensers mounted on the roof and equipped with Kramer "Winterstats" for year-round head pressure control.

The system also includes four Kramer "Thermobank" units for automatic hot gas defrosting. The Thermobank evaporators are ceiling mounted to allow use of all floor space.

B. T. Ramsey, construction supervisor of the Indianapolis division of Standard Grocery, which is a division of National Tea Co., said that the selection of Unicons for the warehouse resulted from experience with them in 23 of Standard's supermarkets.

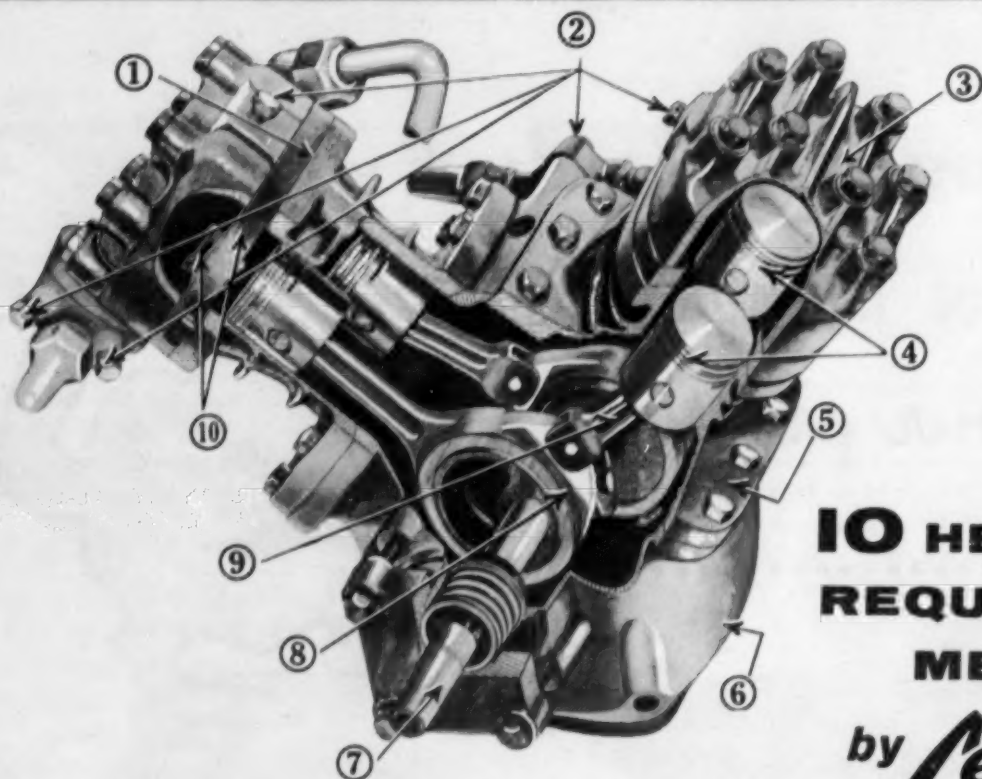
Each market in this area is equipped with its own walk-in storage freezer for reserve storage of frozen foods, he pointed out.

This has enabled Standard to schedule economical deliveries of frozen foods to its supermarkets. The new warehousing facilities makes possible greater economy resulting from larger quantity buying, Ramsey said.

The new warehouse storage rooms measure 123 by 35 ft., 60 by 35 ft., 80 by 22 ft., and 35 by 25 ft. The smallest room is normally kept at 28° F. and is used to make up deliveries to the supermarkets. However, when additional storage is required, it, too, can be reduced to -10° F.

Two of the rooms are insulated with 8-in. cork and two are insulated with 8 in. of "Styrofoam." Six Clark electric conveyor loaders are used to handle the frozen food boxes in quantity.

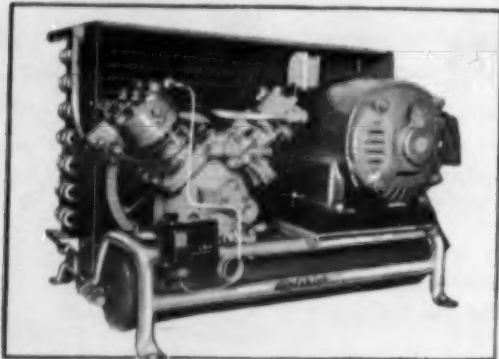
Refrigeration equipment was furnished by Duncan Supply Co. here.



## 10 HEAVY DUTY REQUIREMENTS MET FULLY by Lehigh

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# Refrigerant Distributors

*Distributors for Direct Expansion Multi-Circuit Evaporators  
Boost Efficiency of Coils over Broader Percentage of Loading*

BOSTON — Refrigerant distributors for direct expansion multi-circuit evaporators improve the efficiency of coils over a broader percentage of loading, William H. Krack, sales manager of Sporlan Valve Co., told the regional educational forum held here recently by the Refrigeration Service Engineers Society.

Why and how the present-day "pressure drop" type distributor was developed was outlined in a slide presentation by Krack, who explained that when the industry first turned to finned coils and the refrigerants now in use, the troublesome problems of excessive pressure drop and difficult refrigerant control in the coil were encountered.

## 'Freon' Requires More Movement Than Methyl Chloride

"The higher heat transfer rate per unit of length of the coil required greater refrigerant flow per ton," Krack said. "With 'Freon' you have to move two or three times as much refrigerant as with methyl chloride to get the same refrigerating effect."

The excessive pressure drop that resulted caused an excessive split between refrigerant and air temperature, which is not desirable, of course, in most applications, he indicated.

"Although the external equalizer will improve operation of the expansion valve under these conditions, it will not change the pressure drop condition; the solution is a multi-circuit evaporator," Krack declared.

## Problems with Multi-Circuit Evaporators

Problem with multi-circuit evaporators, however, is to supply proportionate amounts of refrigerant vapor-liquid mixture to each circuit of the evaporator, he explained. And this is complicated by the fact that flashing of the refrigerant begins at the point of expansion.

First attempt to solve these problems resulted in the weir or liquid level type of distributor, which worked fairly well, Krack said.

"It was, however, very critical as to being mounted level, and therefore was limited to stationary installations only. Also,

it was bulky and expensive," he commented.

Next development was the centrifugal type distributor, which "had some advantages but also suffered disadvantages such as poor distribution at light load," according to Krack.

With the present pressure-drop type of distributor available from several manufacturers all the disadvantages of the former type are overcome with the possible exception of the high pressure drop (20 to 25 p.s.i.) that results, Krack said.

"This pressure drop, however, doesn't rob the system of its capacity, but it does lower the pressure drop rating of the thermostatic expansion valve," he explained. "You compensate

for this simply by selecting an expansion valve with a different rating for use with this type."

The pressure drop distributor, Krack pointed out, works better in a vertical position with the refrigerant feeding either up or down. With this arrangement the device gives efficient refrigerant distribution over the range of 60% to 125% of full rated load.

## Performance in Horizontal Position

Such a distributor also performs satisfactorily in a horizontal position, but its range of efficient operation is narrowed considerably, he indicated.

Range of efficiency of the

pressure drop distributor drops sharply if there's too much separation between the distributor and expansion valve, so this distance should be held to a minimum, Krack advised.

Distributors can only be used with external equalized expansion valves, he also pointed out.

Illustrating and discussing various makes of distributors on the market, Krack explained that the Sporlan version has a removable nozzle which simplifies selection.

"You can change nozzle sizes if necessary in order to achieve proper performance," Krack said.

## Norris-Thermador Ups Stuart S. Power

LOS ANGELES — Stuart S. Power was recently appointed manager of evaporative cooler sales for Norris-Thermador Corp., Frank A. Ballman, general sales manager announced.

## Chemical Solvent Names Wolfe, Evans

BIRMINGHAM, Ala.—Chemical Solvent Co. here has announced the appointment of Rudy Wolfe and Walter Evans, Jr. as its sales representatives in Louisiana, Texas,



Rudy Wolfe

Oklahoma, Arkansas, Mississippi, Tennessee, and parts of Alabama.



Walter Evans

Widely known in the industry, the men recently opened their own sales agency in New Orleans under the name of Wolfe & Evans Co., the announcement said.

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"Freon-12"	95/100 lb.
"Freon-22"	2 lb.
"Freon-114"	1 lb.
Sulfur Dioxide	1 lb.
Methyl Chloride	2 lb.



For your convenience, Charg-A-Cans are available in six-pack containers for greater ease in handling, stocking, display.



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Model O Single-Stage Pump—1 mm. vacuum, blank flange, 1 CFM, 1/4 HP, weight 48 lbs.

Model A Two-Stage Pump—1/10 mm. vacuum, blank flange, 2.5 CFM, 1/2 HP, weight 80 lbs.

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For more information about products advertised on this page use Information Center, page 24.



## Spanish-Type Home Features Unusual Air Conditioning; Cooled by 10-Ton Water Chiller, 10 Room Units, No Ducts

WASHINGTON, D. C.—Latin American dignitaries will have a chance to observe the benefits of home air conditioning at first hand when they visit Jose A. Mora, secretary-general of the Pan American Union, here.

As part of refurbishing his residence on the grounds of the Pan American Union building, the big, two-story Latin American styled home was air conditioned last spring.

The structure of the house, unusual for this country, made the cooling installation a bit of a problem, according to Alexander MacLean, vice president of Wilson Supply Co., Airtemp distributor here.

Because an enclosed patio hollows out the center of the sturdy, white-walled structure,



THIS 10-ton water chiller and cooling tower were installed in an area-way at one side of the Pan American Union secretary-general's home in Washington, D. C. The whole is enclosed by lattice-work to conceal it from public view.

the living quarters actually form a block "C" around three sides of the patio. The fourth side opens onto a marble terrace facing the lovely formal gardens and pool that separate the residence from the main building. The shape of the building and the thick interior walls thus made a centralized system with duct distribution impossible. So MacLean and the installing

dealer, Stern Brenner & Arey Enterprises, Inc., spotted five 1-ton room air conditioners under windows around the main floor. Five more 1-ton units were placed in the attic, cooling second floor bedrooms through ceiling diffusers.

A 10-ton water chiller and cooling tower were installed in an area-way at one side of the building. The cooling tower was mounted above the chiller and the whole enclosed in a lattice-work housing to conceal it.

As the building is heated by steam furnished from a central plant, a converter was installed to turn the steam to hot water. This water is chilled by the refrigeration unit and circulated to the individual air conditioners about the house.

The separate room units in the bedrooms were particularly desired by Senora Mora who requested individual temperature controls for each bedroom.

## Individual Air-Cooled Units To Condition AF Housing Project

STAUNTON, Va.—One of the nation's largest completely air conditioned housing developments—being built for nearly 1,000 United States Air Force families—will be equipped with Westinghouse waterless-type air conditioners.

Bruce D. Henderson, vice president of Westinghouse Electric Corp.'s air conditioning division at Staunton, said that the equipment order, which totals approximately \$500,000 is "perhaps the largest single firm order for residential air conditioning equipment ever placed by any purchaser, civilian or military."

To be installed in residences of officers and enlisted men at the Abilene, Texas Air Force Base, the 3-ton capacity units, recently introduced by Westinghouse, are of a type called the "ACU."

## 944 Units To Be In Place by Year-End

The 944 ACU units earmarked for the west Texas project are being shipped from Staunton under a delivery schedule set up by the Air Force. The entire installation is expected to be completed by the end of 1956.

General contractors for the development are C. H. Leavell & Co. and Dan R. Ponder, Inc., El Paso, Texas. Peeler-Hansen-Wilson Co., El Paso, is installing the air conditioning equipment.

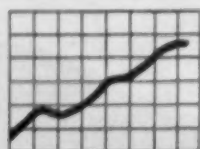
Associated architects and engineers on the project are David S. Castle Co., F. C. Olds Co., both of Abilene, and Leonard E. Kanto Co., Fort Worth, Texas.

## Air-Cooled Units Used Due to Water Limitations

"Air-cooled units," said Henderson, "are receiving particularly wide acceptance in the southwest, principally because of the limited water supply in that area, and also because of the economy of installation and operation of this type of air conditioner."

The ACU cooling cabinet itself measure only 3 by 3 by 2 ft. and does not take up any basement space since it can be located outside the home, it was pointed out.

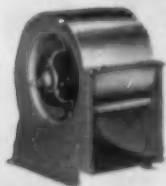
"This is possible because the evaporator coil can be connected into the existing ductwork of a warm air furnace located in the basement or utility room of the home," it was stated. "This evaporator unit is then connected by tubing to the cooling cabinet, which can be placed in a number of convenient locations outside each of the homes."



When sales go up  
do you "scramble" for deliveries?



**Brundage** stocks can save the day



**STOCKS INCLUDE**  
UNIVERSAL BLOWERS  
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Everyone runs into tight scheduling once in a while. The seasonal quality of the heating and air conditioning industry makes an occasional "hurry up" call unavoidable.

When this happens to you, Brundage is a good name to keep in mind.

New warehouse capacity—coupled with a fast order handling procedure—can help you avoid unnecessary shut-downs. And it can help you take advantage of an up-swing in business that you might otherwise be unable to handle.

MANUFACTURERS: Brundage Universal Blowers can often solve your production problems because they are a stock item and can meet most applications.

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Instruments

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lating Valves, Solenoid Valves.  
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Dept. D., Skokie, Ill.



**'Code of Fair Practices' for Food Supplier**

## Food-Freezer Merchandising Plan Established by RCA-Whirlpool

ST. JOSEPH, Mich.—Establishment of the new RCA Whirlpool "Better Food Budget" food-freezer merchandising plan was announced here by Emil Stanton, food-freezer plan manager, Whirlpool-Seeger Corp.

The Better Food Budget permits the purchase of a freezer and a food supply simultaneously financed on a practical time payment basis, it was pointed out.

### 12-POINT CODE FOR FOOD PROVISIONER

Features of the food-freezer plan include the food protection and freezing system warranties provided with all RCA Whirlpool freezers, a food quality guarantee signed by the participating food provisioner, and a 12-point "Code of Fair Practices" signed by the dealer and his salesman.

The code prohibits misleading claims or statements about the Better Food Budget plan, provides for itemization of food packages and all prices or charges, and stipulates that food quality on re-orders shall be maintained. In signing the code, dealers further agree to maintain volume food purchasing prices for their customers.

Better Food Budget dealers are now being franchised by RCA Whirlpool freezer distributors. Among retail establishments which have met franchise qualifications are appliance dealers, frozen food locker operators, and department stores. Terms to be offered consumers are set by the individual franchised dealer.

### OPERATING GUIDE FOR DEALER

An operating guide for the dealer covers every aspect of the Better Food Budget operation. The guide gives suggestions on how to set up inventory financing, customer financing, a sales organization, a food source if one is needed, and service.

Sales aids prepared for Better Food Budget dealers include the following:

A 52-page customer selling presentation, 32 pages of which are in full color, which introduces the family to the Better Food Budget and "takes it step by step along the way to better living through the plan."

A salesman's guide to use of the customer selling presentation, which points out the purpose and potential uses of each page.

### WORK SHEETS AID SAVINGS COMPUTATION

Salesmen's work sheets for computing individual family food spending and savings made possible through subscription to the Better Food Budget.

A food quantity and freezer size slide-rule selector, which, in addition to making possible the quick selection of the freezer most suitable to family needs, "indicates the nutritional superiority of frozen foods over canned and market-fresh foods."

A four-page folder of charts showing retail and wholesale cuts of lamb, beef, and pork,

and method of preparation for each cut.

Signs, window decals, sales report forms, food order forms, pricing tables, direct mail pieces, premium catalogs, customer identification and follow-up cards, and suggested newspaper, radio, and television ads.

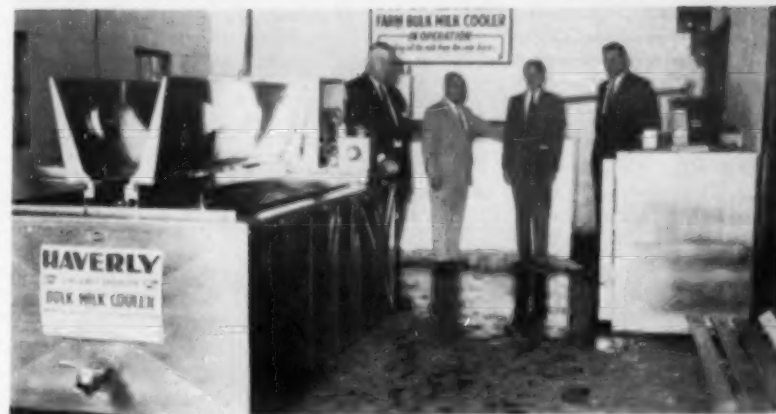
In announcing the plan, Stanton said, "The food freezer is the one major appliance which requires a substantial second purchase by the customer, that of food, before full benefits can be derived. By combining the two purchases, the new plan offers additional practical advantages for better living to the customer and increased sales to the dealer."

SYRACUSE, N. Y.—The bulk cooling of milk in semi-direct expansion bulk milk coolers held the dairy spotlight at the New York State Fair in September.

One cooler prevented spoilage of nearly 700 gals. of milk from exhibitors' cows when the electricity failed for from 4 to 6 hours. Another Haverly bulk milk cooler dispensed over 500 gals. of cooled milk daily at a booth offering "All The Milk You Can Drink for 10 Cents."

The protection and continued proper cooling of 700 gals. of milk from the Fair cattle barn, in the face of an electrical failure, was directly attributed to the construction of the Haverly 700-gal. bulk milk cooler used in conjunction with the dairy section of the Fair. This cooler was filled and the milk cooled twice each day.

## Haverly Bulk Cooler Saves 700 Gallons of Milk at Fair



SEMI-DIRECT EXPANSION milk cooler saves milk from prize cows during electrical failure at New York State Fair. C. U. Haverly, originator of the semi-direct expansion bulk cooler (second from left), is shown beside this 700-gal. cooler in the Haverly Bldg. Also shown (l. to r.) are three Haverly sales representatives—Carl Fehrman, Arthur Kosten, and F. C. Orner.

The "All The Milk You Can Drink for 10 Cents" booth in connected to the cows' udders. The milk was stored in a Haverly bulk cooler and reached the customers were served cold spigots by gravity flow.

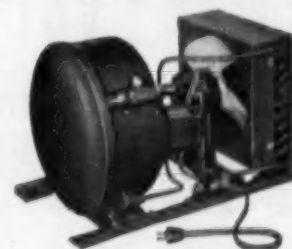
# REFRIGERATED EQUIPMENT MANUFACTURERS

If you have an  
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do what more and  
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Equip with dependable

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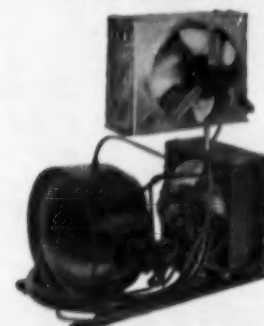
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AND REFRIGERATION SYSTEMS



CONDENSING UNITS



COMPRESSORS



REFRIGERATION SYSTEMS

More and more major manufacturers of household refrigerators and freezers . . . frozen food cabinets and display cases . . . beverage and water coolers . . . commercial storage and display cabinets of all kinds are changing to American Motors equipment.

Yes, in every field\*, refrigerated equipment manufacturers have found American Motors a most dependable

source of supply.

If you are manufacturing or plan to manufacture any kind of refrigerated product, our Sales Engineers are at your service.

They can provide you with the exact compressor, condensing unit or refrigeration system to best fit your needs. Why not phone or write today!

\*Biological cabinets, laboratory equipment, self contained truck units, milk coolers, egg coolers, beer handling equipment, refrigerated vending machines, etc.

**American Motors Corp.**

Detroit 32, Michigan



CONTRACT DEPT.  
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DIVISION

SPECIALISTS IN REFRIGERATION SINCE 1914

For more information about products advertised on this page use Information Center, page 24.



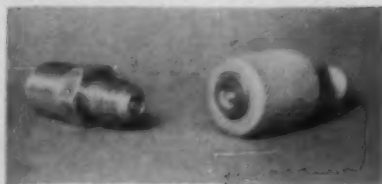
## Access Connector Installs In Any Location

KEY NO. F-1030

PITTSBURGH—A systems access connector, designed for installation at any convenient location in the refrigeration system, has been announced recently by Superior Valve & Fittings Co. here.

The connector is of all brass construction and is suitable for use with all refrigerants in the "Freon-12" class.

The 1/4-in. American National taper pipe thread connects with the system at the outlet side of the receiver or by means of a tee at any point in the system. The 1/4-in. SAE flare connection is



designed to be used with Superior's quick-coupler with a special arrow-type opener.

The adapter contains a tapered compression spring that holds the seat in position when the connector is not being used. With the attachment of the special quick-coupler, an arrow-type opener compresses the spring in the

adapter allowing full flow of refrigerant for charging the refrigeration system.

Primary and secondary seal gaskets in the quick-coupler insures a leak-proof connection whether connecting or disconnecting, the company pointed out. A seal cap is furnished with the adapter when it is not in use.

Both the system access connector and the special quick-coupler are ideally suited for use on hermetic units or other refrigerant equipment for charging, purging, checking pressure, etc., according to the company. They are suitable for use with either charging hoses or pigtail connections.

## Self-Service Dairy Merchandiser Introduced



KEY NO. F-1031

PHILADELPHIA—A self-service merchandiser dairy display case, primarily designed for dis-

playing milk, cheese, and eggs, was introduced here recently by Howard Refrigerator Co., Inc.

Also adaptable as a refrigerated candy case, or for biological products, or for beverage display, the unit is said to be flexible and made in two sizes.

Both units are equipped with a mezzanine shelf, fluorescent lighting, and hermetically sealed refrigerant system.

Style 1 is an open-type self-service unit. No. 2 is equipped with a formica top for part displays of allied items and a slide-back glass door cover. Style 3 is fitted with a wide formica top service counter 18-in. wide and a display glass push-back cover.

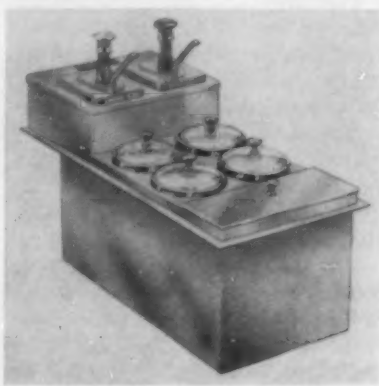
## Smith Werner Has Stainless Steel Fountain

KEY NO. F-1032

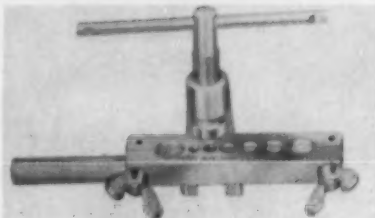
DENVER—A new stainless steel model 8-88 of "Serv-All" fountain was recently introduced by Smith-Werner Co. here.

This dispenser installs into one section of an ice cream cabinet by removing a lid. It offers complete facilities for dispensing syrups, crushed items, malts, milk shakes, and sundaes.

The unit features two syrup pumps, four crushed fruit containers, and storage space for three quart cartons of milk, the company said.



## Nye Flaring Tool Offered for Copper Tubing



KEY NO. F-1033

CHICAGO—A new flaring tool especially designed for work on copper tubing such as used in domestic refrigeration, autos, etc. is announced by Nye Tool Co. here.

The device is constructed in two parts to facilitate carrying.

"Assembly for operation is done in seconds and a single flare can quickly and cleanly be made on 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, and 5/8-in. tubing," the company said. "Lock-in holes accommodate these sizes without crushing."

"A special feature of the unit is the rotary assembly at the flaring point, which not only promotes ease of operation but assures a consistently clean, true flare job."

"The tool is light weight for ease of handling, yet is ruggedly constructed of finest alloy steel to give long, satisfactory service," according to Nye.

# PROTECT against Line Disturbances



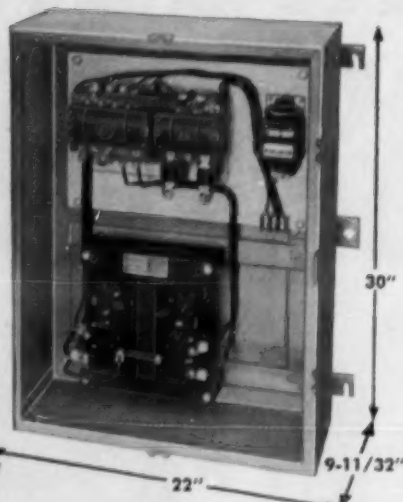
## REDUCED VOLTAGE STARTERS

SATISFY POWER COMPANY REQUIREMENTS

TYPE "TRA" AUTO-TRANSFORMER STARTER FOR GREATEST POSSIBLE STARTING TORQUE

FEATURING: Advanced design, lighter, more compact with straight-thru wiring. Rugged auto-transformer with taps easily adjustable for desired voltage. Adjustable accelerating pneumatic relay. A-H bi-metallic thermal overload relays.

AVAILABLE: In NEMA Sizes 0 to 5, from 5 to 200 hp. NEMA I (General Purpose) or NEMA XII (Industrial) Enclosure.



SIZE 2 30 H.P.

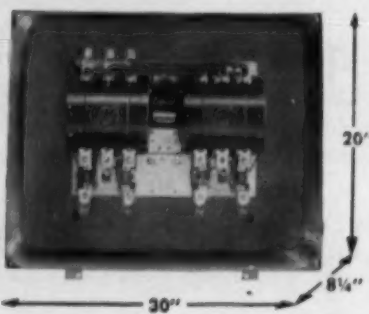
TYPE "IRA" INCREMENT STARTER FOR PART WINDING SQUIRREL CAGE MOTORS

Reduce current inrush on light or low-inertia starting loads by 2-step method... second winding energized after an adjustable time lag.

AVAILABLE: In NEMA Sizes 1 to 5, up to 400 hp at 440/550 volts. NEMA I or NEMA XII Enclosure.

These A-H Starters provide automatic operation with either 3-wire control or 2-wire thermostat control systems. Supplied with 3 poles for polyphase service, 4 poles for 4-wire service.

USE THIS COUPON TO SEND FOR COMPLETE INFORMATION



SIZE 4



Quality

MOTOR CONTROLS  
WIRING DEVICES  
ENCLOSED SWITCHES  
APPLIANCE SWITCHES

INDUSTRIAL CONTROL DIVISION  
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☐ The complete line of A-H Heating, Ventilating and Air Conditioning Controls. ACR

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co. address \_\_\_\_\_

city \_\_\_\_\_ zone \_\_\_\_\_ state \_\_\_\_\_

## Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

### Products Advertised

(list name, page, and issue date)

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### What's New or Current Literature Available

Key No. .... Key No. ....  
Key No. .... Key No. ....  
Key No. .... Key No. ....  
Key No. .... Key No. ....  
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## BTC Offers Visual, Portable Beverage Case

—KEY NO. F-1034—

NEW MILFORD, Pa.—A visual beverage merchandiser that can be spotted in strategic store locations is now being introduced by the Beverage Cooler Div. of The Brewer-Titchener Corp. here.

BTC's "Bev-Merchandiser" occupies a floor area only 2½ ft. by 3 ft., yet has a capacity of 7.8 cu. ft., the company said. The unit is designed to promote impulse sales of beverages in glass bottles, cartons, and cans, displaying them through 18 in. by 31-in. multiple-pane glass on front and back.

Fully accessible from four sides, the merchandiser is equipped with casters and is completely self-contained. Measuring 37½ in. long by 30 in. wide by 38 in. high, it may be plugged into any electrical outlet.

The cabinet features trim, mod-



ern lines with white baked enamel finish and stainless steel trim. It utilizes a ½-hp. hermetic compressor that can be pulled out for ease in servicing.

## Delta Has Totally Enclosed Oil Furnace

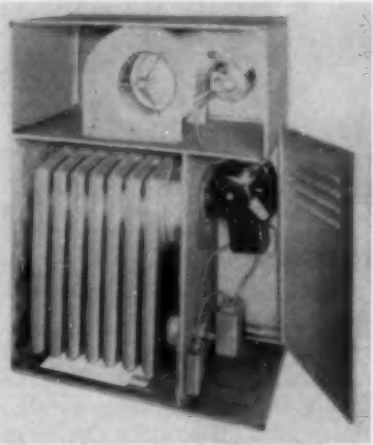
—KEY NO. F-1035—

TRENTON, N. J.—Delta Heating Corp. here recently announced a totally enclosed "Hi-Lo Boy" oil furnace.

The furnace casing completely encloses all wiring and the fully assembled burner and controls. The model is 56 in. high.

Featuring a new heat exchanger composed of several independent steel sections welded together, to produce rated output from 68,000 to 210,000 B.t.u.h., more sections are used in the larger sizes.

Because of four knockout circles stamped into the casing, the flue pipe is interchangeable according to the installer's preference.

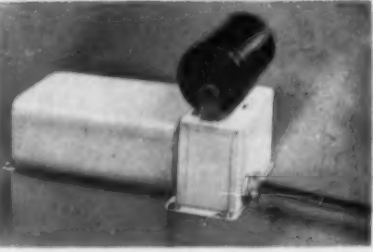


## Sprague Introduces Small Capacitor Assembly

—KEY NO. F-1036—

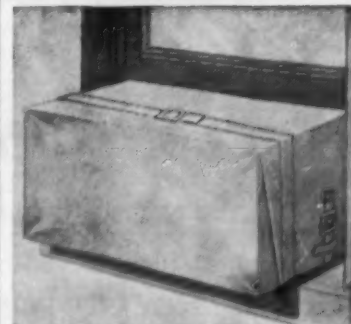
NORTH ADAMS, Mass.—A new "Condaire" capacitor assembly for use in air conditioning units of the smaller integral horsepower size was recently offered here by Sprague Electric Co.

The running capacitor plugs into the central shell from the left while the starting capacitor fits into a clip on top of the shell. A



relay as well as a wiring terminal both are contained within the central shell, the firm noted.

Features claimed by the company include a cooler running capacitor, simplified field service problems, and savings in size, weight, and cost.



The NEW DOUBLE STRAP AIR CONDITIONER

## PROTECTOR

The only REAL fit for ALL model window air conditioners. • Only SIX sizes and stock numbers. • Attractive forest green fabric. • Clear plastic packaging with visible instruction sheet. • Inexpensive. • A fast and easy seller.

Contact

TULSA CANVAS PRODUCTS CO., INC.

P. O. BOX 2072 Tulsa, Oklahoma

## Mixing Arm Protects Against Contamination

—KEY NO. F-1037—

ENGLEWOOD, N. J.—Kenco Products Corp. here recently offered a new soda fountain mixing arm which is said to safeguard against contamination from syrup deposits.

There are no levers or gadgets to work on "Kencomix 444" mixing arms, the company said. The handle is pushed back for a mixed drink, pulled for carbonated water. Release the handle and it shuts off the flow automatically, the manufacturer stated.

All surfaces in fluid contact are stainless steel and the arm has a plastic "no-splash" nozzle.

Amount of syrup is regulated by turning a screw, it was noted.

The unit fits all standard draft arm stations and is also available in short shank model for other types of dispensing equipment. It is guaranteed one year against mechanical or workmanship defects, the company further explained.

Additional details on any of the products described on these pages may be obtained by using the "Information Center" coupon on the opposite page. Products should be designated by key number which accompanies each article.



## Ejay Bows Remote Heating, Cooling Unit

—KEY NO. F-1038—

WINSTED, Conn.—A remote heating and cooling unit which gives hot water heat in winter and complete air conditioning in summer was introduced here recently by Ejay Baseboard Mfg. Co.

Model 100 is available in either recessed or free-standing models, the company said. The unit has a heat rating of 11,000 B.t.u. and a cooling rating of 4,800 B.t.u., it was noted.

Completely insulated with a non-metallic box to eliminate condensation, the unit is easy to install, the firm maintains.

## Non-Corrosive Solder Fluxes Introduced

—KEY NO. F-1039—

NEW YORK CITY—Non-corrosive, quick wetting solder fluxes designed primarily for use on copper and copper base alloys

were recently put on the market by Federated Metals Div., American Smelting & Refining Co. here, it was announced.

Utilizing "safe-to-handle" derivatives of hydrazine, these new fluxes are known as Federated H-series solder fluxes. Advantages claimed for the fluxes in soft soldering include small amounts of flux residues are non-corrosive, good spread characteristics, little residue produced, elimination of washing and cleaning, and prefluxing for production economies.

Oxides are reduced to free metal above 375° as the flux decomposes and vaporizes, it was noted. Prefluxing and allowing this to dry, speeding the drying by heating up to 140°, the article may then be soldered at any convenient time.

Used with all soldering techniques, steel, aluminum, zinc, and stainless steel may be soldered with H-series fluxes if the surface is first coated with copper, tin, solder, or silver, it was explained.

Available in pint and gallon containers and 55-gal. drums, fluxes can be stored for long periods without loss of activity.

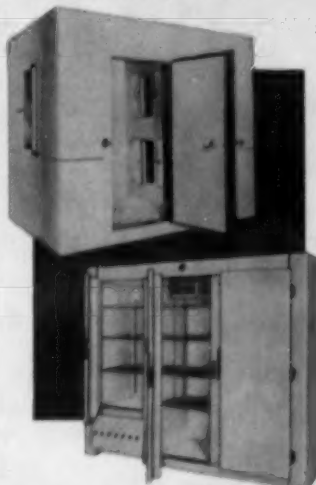
**Gloekler**

A FAMOUS NAME IN COMMERCIAL REFRIGERATION FOR OVER 50 YEARS!

As a pioneer designer and builder of commercial refrigerators, with more than 50 years of experience, Gloekler offers these important advantages:

1. Your customers get the finest construction materials and design plus the all-important benefits the industry's most advanced skills and facilities can offer.
2. Too, as a Gloekler dealer you are protected on every transaction in your area, and get conscientious factory cooperation in maintaining good customer relations.

WALK-IN & REACH-IN Standard and Custom Designs for Every Need!



COMPETITIVELY PRICED BACKED BY WRITTEN WARRANTY

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### QUALITY AT LOW COST

The most popular and versatile unit in the industry • Unique design is fully patented • For Back Bars, Direct Draws and limited space applications • Twin air flow cooling • Life lubricated motors with overload protection • All aluminum cabinet • Capacities 85 to 150 BTU per 1° TD.

See Them at Your Wholesalers

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BOHN ALUMINUM & BRASS CORPORATION  
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"Trouble-free performance of rugged Typhoon parts chalks up satisfied customers for me," says Sid Taylor (left), Typhoon's Des Moines dealer.



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FACTORY-DEALER TEAM  
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- Commercial Air Conditioners, 2 to 30 tons
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Find out how a Typhoon Direct Factory Franchise can make money for you. Send in this coupon today.

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## Airtemp Holds Detroit Area Meeting On Merchandising Plans for Fall, Winter

DAYTON — Airtemp Div., brought news of what is planned Chrysler Corp., held its Detroit-area fall and winter merchandising meeting at the Statler hotel, Wednesday, Oct. 10.

All local Airtemp dealers and distributor representatives participated in the full-day meeting.

Airtemp sales officials from the company's Dayton plant headed up the parley. They topic.

brought news of what is planned in the way of merchandising programs for the balance of 1956 and for the first quarter of 1957.

Current merchandising practices were also reviewed.

Promotion of the new low-cost home air conditioning system marketed by Airtemp this summer was a top meeting topic.

## Refrigeration Problems And Their Solution

By Paul Reed

For Service and Installation Engineers



### Starting Relay (2)

Let us now consider the statement quoted from the service manual of a manufacturer of a window unit.

"The amperage operated relay is obsolete and should be replaced by a voltage relay" and "It is advisable to change the starting relay as well as the capacitor (in some cases) for the cut-out setting of the relay may have changed."

Perhaps the manufacturer did not mean that these statements were to be considered as generally true, but only to apply to his particular product. It is quite possible that he had changed from an amperage type (more often called a current type) relay to a voltage type (also called a potential type) relay on the product covered by the manual, thus making the current type obsolete on that product.

### RECOMMENDATION PROBABLY NOT INTENDED TO APPLY GENERALLY

It is highly doubtful that he would suggest that the current type starting relays on all types and makes of equipment be replaced by the voltage type. He might possibly recommend that on that particular product the earlier current type relays be replaced by the voltage types, if and when one of the older type equipment has to be serviced.

His experience may also have shown that the current type relay formerly used did not stand up, possibly due to pivot wear or sticking contacts, either of which could cause delayed operation. This in turn could very well damage the starting capacitor if the capacitor stayed in the circuit too long. Thus, his statements must surely have applied specifically to his own product, and perhaps to a particular type or model of his product even.

Moreover, the current type starting relay is quite satisfac-

tory for starting split phase or capacitor-start motors, especially in the smaller sizes, on which it has the outstanding advantage of being less costly than the voltage type.

The current type relay has some disadvantages, it is true, but these need not be serious if

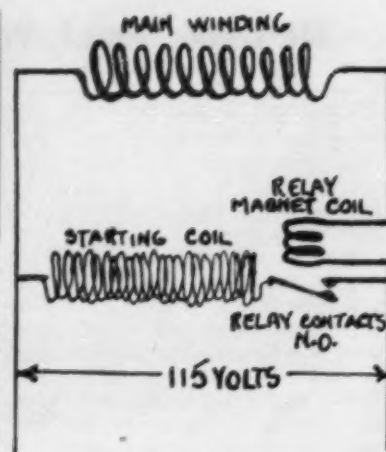


FIG. 1—Split-phase motor with current type starting relay.

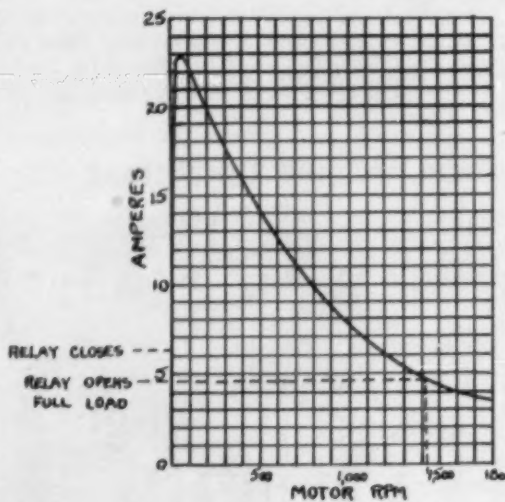


FIG. 2—Motor current during starting.

they are properly taken into account when the equipment is originally designed. For one thing it tends to become rather large and clumsy for the larger sizes of motors. Also it may tend to overheat on short cycling, and its characteristics are not very good on under-voltage or over-voltage, particularly low voltage.

### CONSTRUCTION AND OPERATION OF THE CURRENT TYPE STARTING RELAY

It might be well to review the construction and operation of the current type starting relay. As will be seen in Fig. 1, the magnet coil of the current relay is in the supply line to the main winding of the motor. Therefore it is carrying the entire current of the main winding, not only during starting, but all the time the motor is running.

Its contacts, however, are in the starting winding circuit only, so do not carry current except during the starting period, that is, after the motor gets up

to about 80% to 85% of full load running speed.

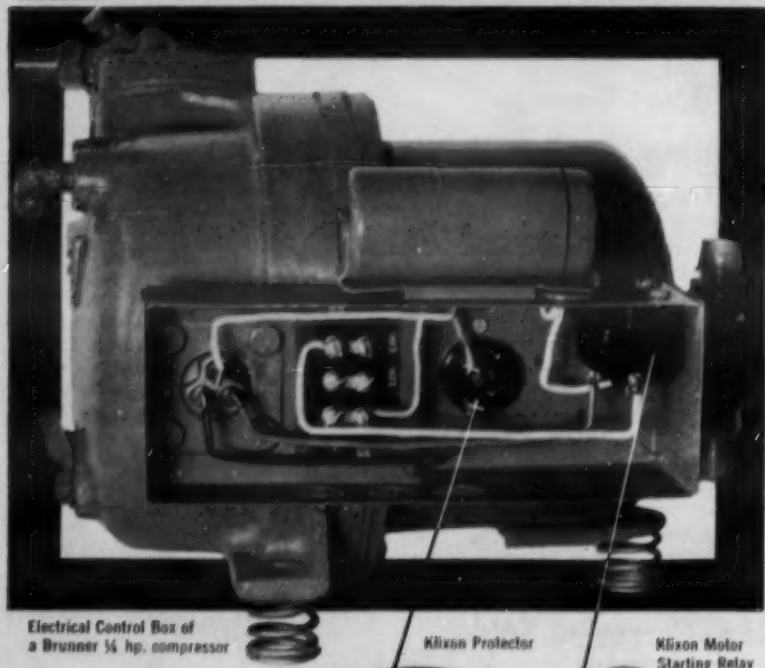
Since the magnet coil of a current type starting relay carries full main winding current at all times, it must be wound of heavy wire in order to not overheat on this heavy current. The power of a magnet coil depends upon the current passing through the coil and the number of turns of wire in the coil.

The magnet coil of the current type starting relay need have but a few turns, for the current is comparatively high. As a rule, a coil of few turns of heavy wire is much cheaper to produce than one of many times as many turns, even though the wire is much smaller.

How does the current type relay operate in starting a split phase, or for that matter, a capacitor-start motor?

### CONTACTS ARE NORMALLY OPEN

Fig. 2 shows motor r.p.m. plotted against current in amperes through the main winding. (Continued on next page)

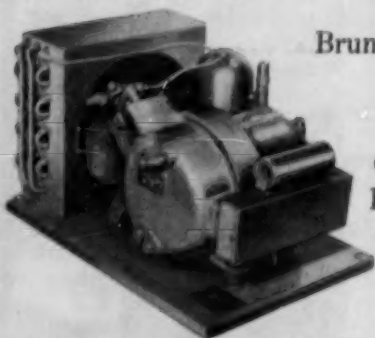


Brunner

Specifies and Uses

# KLIXON

Protectors and Starting Relays  
To Assure Dependable Service



A Brunner Air Cooled Condensing Unit

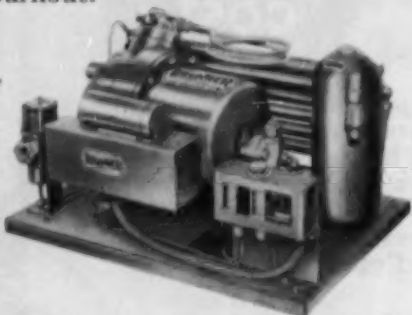
Brunner Manufacturing Company, leading manufacturer of commercial refrigeration condensing units, uses Klixon Protectors and motor starting relays to help assure their customers of service-free dependability.

Here's what Brunner has to say:

"We specify Klixon motor protectors for use on all Brunnermetic single-phase compressors because of their dependability and service-free operation. The protectors permit efficient motor loading with maximum protection against motor burnout.

"We have also found the Klixon current type motor starting relay to be equally dependable."

You, too, can help build and maintain top product performance by specifying and using Klixon Protectors and motor starting relays.



A Brunner Water Cooled Condensing Unit

METALS & CONTROLS CORPORATION  
SPENCER THERMOSTAT DIVISION  
2410 Forest Street, Allendale, Massachusetts

# KLIXON

## Edwards CO-AXIAL CONDENSERS



A TYPICAL CONFIGURATION—  
EFFICIENT, COMPACT DESIGN

Send for catalog  
TT-652  
TODAY  
or call  
TERHUNE 5-2808

**EDWARDS ENGINEERING CORP.**  
100 ALEXANDER AVENUE • POMPTON PLAINS, NEW JERSEY

The NEWEST design in water-cooled refrigerant condensers. Used by major equipment manufacturers because of these—

### SELLING ADVANTAGES:

- Use 35% less water
- Cost reduced 30 to 40%
- Stock sizes: 1/2 to 1 1/2 tons
- No internal joints
- Easy installation
- Many compact shapes



## Starting Relays --

(Continued from preceding page)

ing of a 1/4-hp. split phase motor. Since a current type relay is a "normally open" relay (that is, gravity or a spring holds the contacts open when there is no current to the magnet coil) the starting coil of the motor is out of the circuit until the thermostat or pressure control turns the motor on.

When the motor is running, the movement of the rotor in the magnetic field between the field coils generates a voltage in the main windings that opposes the 115 volts supplied to the motor from the line.

This counter voltage acts much the same as a resistance in the main winding, and reduces the amount of current flowing through the main winding, so the amount of this current depends on how fast the motor is running.

But at the instant that the line current is turned on, the rotor is not turning, no counter voltage is being generated, and the amperage to the main winding is very high. In a split phase motor this starting or "locked rotor" current may be three to five times full load current.

This heavy inrush of current is more than is necessary to give the magnet coil sufficient power to close the contacts of the relay, so the starting coil is brought into the circuit. The starting coil gives the motor the needed starting torque (turning power) so the motor quickly builds up speed.

## NORMAL CURRENT NOT SUFFICIENT TO KEEP CONTACTS CLOSED

As it does so, the current becomes less due to the opposition of the counter voltage. At about 75% to 85% of full load speed about 1,300 to 1,400 r.p.m. in a motor having a full load speed of 1,725 r.p.m.) the current becomes so low that the magnet coil of the relay no longer has enough power to hold the relay contacts closed, and the spring pulls them open and takes the starting coil out of the circuit. However, from the speed attained, the main winding can build the speed on up to full load speed (1,300 or 1,400 r.p.m. on up to 1,725) by itself. Thus the contacts of a current type relay are closed only when the motor is building up to almost full load speed.

(To Be Continued)

## Taylor Announces 4 Personnel Shifts

ROCHESTER, N. Y.—In a move to provide additional managerial strength to handle a steadily expanding volume of business, Raymond E. Olson, president of Taylor Instrument Cos. here announced several personnel changes.

Frank S. Ward, general sales manager, has been named administrative assistant to the president. Succeeding him will be L. Lawrence Forward, manager of Taylor's Chicago operation.

Albert J. Fleig, industrial sales manager, was appointed assistant to Forward. George Heller, formerly assistant industrial sales manager, succeeds.

## Storrs To Operate from New Marsh Office In Quincy, Mass.

SKOKIE, Ill.—James Emmett, Jr., vice president of Jas. P. Marsh Corp., recently announced the opening of the company's New England office, located at 27 Temple St., Quincy, Mass.

Mansur Storrs, the Marsh sales representative for the territory of Maine, Vermont, New Hampshire, Rhode Island, Massachusetts, and Connecticut, will operate from the new office and promote the sale of the Marsh Instrument line throughout the New England area.

## Young Appoints Evans

RACINE, Wis.—Young Radiator Co. here announces the appointment of Paul E. Evans as eastern district sales supervisor for its Heating, Cooling & Air Conditioning Div.

Evans will headquarter in the New York metropolitan area.

## Robertson To Head Chicago Sales for Addison Products

ADDISON, Mich.—Addison Products Co. announces the appointment of R. C. "Robbie" Robertson to direct its sales activities in Chicago and the surrounding territory, with offices established at 273 East Market Square, Lake Forest, Ill.



Robertson has had extensive marketing experience in residential air conditioning and commercial refrigeration at both the manufacturer and distributor levels.

Prior to joining the Addison Products organization he served four years as marketing manager of the Home Heating & Cooling Division of General Electric Co. He also was assistant sales manager of Chrysler Airtemp and served in various executive sales capacities with York, Carrier, and Superior Valve & Fittings.

"Robertson is recognized throughout the industry as an outstanding and energetic leader in association activities."

## Purolator Divides Sales Of Industrial Products

RAHWAY, N. J.—In line with its general corporate expansion, a new program designed to increase distribution of Purolator industrial products was announced here by Richard T. Karr, general sales manager of Purolator's Industrial Equipment Div.

Karr said that Purolator is dividing sales of its industrial product lines into three categories, industrial, bulk, and plumbing-heating, each of which will have its own distinct selling organization. The new program will be supervised by Francis D. Skelley, director of industrial sales.

Under the new plan, industrial products, such as coolant filters, process filters, and plant power equipment filters; bulk products, consisting of filtration equipment for the handling of basic petroleum products; and plumbing and heating filters for use in the water supply, oil burner, and heating fields, will each be sold and distributed by specialists.

"By separating our product lines into 'family' groups, we hope to be able to expand greatly the sale and distribution of each group," Karr said. "Far more concentration can be devoted to our product lines."

## Enjoy ARW Region Luncheon



ATTENDING ARW Region 3 luncheon in DuPont hotel are (left to right): George J. Roche, president of Roche & Hull, Baltimore; John A. Landt, du Pont sales representative, Wilmington, Del.; Mrs. I. J. Greenberg, secretary, Greenberg Supply, Wilmington; C. V. Hale, general manager, Noland Co., Newport News, Va.; Paul Bodwell, president, Bodwell Co., Harrisburg, Pa.; John F. Boynton, president, Refrigeration Suppliers, Norfolk, Va.; A. Starr Hull, ARW national executive director; Irving J. Greenberg, president of Greenberg Supply Co., Wilmington; R. J. Thompson, sales director of du Pont; and A. H. Holcombe, Jr., national director from Region 3.

## Iowa, Des Moines Study Plan To Teach Service Classes In Adult Education

NEWTON, Iowa—Students sentatives sponsored by the may soon be learning how to repair appliances in adult vocational education classes in Iowa schools. The subject is now under study by the state department of public instruction and the Des Moines public schools.

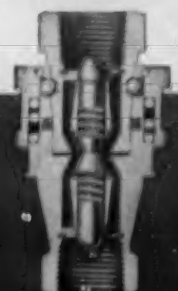
In investigating possible teaching techniques, three educators recently called at the Maytag Co. here to sit in on a session of the regular monthly service school for Maytag dealer representatives sponsored by the company's service department.

Home laundry appliance servicing and repair is now being taught at the Emily Griffith Opportunity school, part of the adult and vocational education division of Denver schools. Schools in Florida and New York also offer the subject and others are becoming interested. Interest now is concentrated in adult night school programs, but may expand.

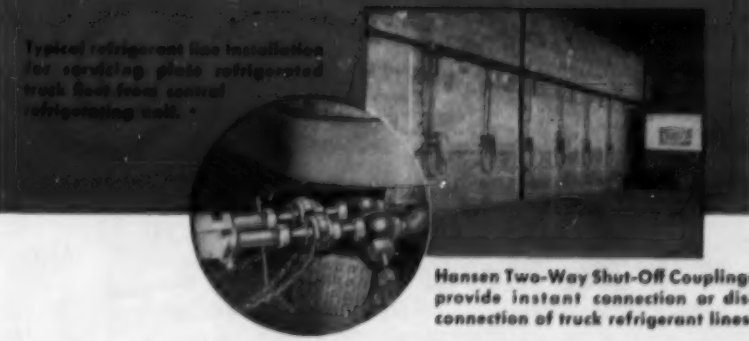
In the Dairy Industry, too—

## TO PROVIDE INSTANT CONNECTION AND DISCONNECTION OF TRUCK REFRIGERANT LINES

**HANSEN**  
QUICK CONNECTIVE  
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TWO-WAY SHUT-OFF  
COUPLINGS



Slide back back of line. AUTOMATICALLY—INSTANTLY.



Hansen Two-Way Shut-Off Couplings provide instant connection or disconnection of truck refrigerant lines.

On almost a countless variety of applications, Hansen Series HK Couplings provide instant connection and disconnection of fluid lines, eliminate costly delays—save time, effort and money.

To connect, you merely pull back sleeve and push Plug into the Socket. To disconnect, just pull back sleeve. This disconnects Coupling—automatically seals both ends of line with practically no spilling of liquid or escape of gas. Hansen Series HK Two-Way Shut-Off Couplings are available with female pipe thread connections from 1/8" to 1" inclusive. Available in brass or steel.

Also Straight-Through and One-Way Shut-Off Couplings. Write for Catalog. REPRESENTATIVES IN PRINCIPAL CITIES

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LOW PRICED BUC

## KRACK UNIT COOLER

Here is the long awaited answer to the need for a dependable low priced unit cooler for general application!

Send Today for New Detailed Bulletin BUC 455!



Pioneers in Refrigeration And Air Conditioning Since 1931.

612 901 W. Lake St., Chicago 7, Ill.

## ATTENTION MANUFACTURERS

We are a well-established major equipment Distributor located in Minneapolis, Minnesota. The Corporation is well capitalized with a qualified Dun and Brad rating. We are interested in securing a number of quality lines of major equipment such as (commercial, industrial and domestic heating, commercial and industrial refrigeration and air conditioning; restaurant and institutional kitchen fixtures; humidification; ventilation) for distribution in the States of Minnesota, Western Wisconsin and North Dakota. We also operate a retail contracting division. We are not interested in lines which will require complete pioneering with no previous establishment or area acceptance. We are in the process of expanding our sales organization personnel, warehousing and display facilities and executive staff to serve efficiently and aggressively our program of distribution. We will only consider a Manufacturer who is well established and whose product has the merits of being modern, quality and priced for volume sales. Please forward descriptive literature and detailed informative letter. Please direct all replies to Air Conditioning and Refrigeration News, BOX A3648.



## Servicing Weathertron Heat Pumps (14)

Originally just a theory and for many years subject only to occasional experimental installations, the heat pump of late has developed into a practical and expanding business.

Design, manufacturing, sale, installation, and service of the heat pump have already become important factors.

In recognition of the present stage of development, and the expected future, the News is presenting herewith a series of articles on servicing the G-E air-to-air "Weathertron."

(Continued)

**C. SWITCHOVER VALVE SOLENOID (SC).**  
**SYMPTOMS**  
 Heats when thermostat calls for cooling.  
 Heats when relays call for defrost.  
 Jumper 5 to L2 (unit running).  
 Unit switches to cooling:

H-2 contact dirty or not making.  
 Unit does not switch:  
 Check SC for magnetic pull.  
**Magnetic pull:**  
 SC valve sticking internally or switchover valve sticking internally.  
**No Magnetic pull:**  
 SC coil defective.

### SYMPTOMS

Cools when thermostat calls for heating.

Remove lead AG and AD from 5 and 2 respectively.

**Unit switches to heating:**

Contact H-2 not breaking.

**Unit does not switch to heating:**

SC stuck in cooling position mechanically or switchover valve stuck in cooling position.

**D. OVERRIDE CONTROL SWITCH (ORCS) AND SOLENOID (OR).**  
**SYMPTOMS**

Low capacity cooling.

Icing of the indoor coil.

Low capacity heating.

Remove BJ from 6 and jumper BJ to L2 (unit not running).

**OR picks up:**

OR coil and ORCS contacts are okay.

**OR does not pick up:**

Jumper L2 to 16 leaving BJ disconnected from 6.

**OR picks up:**

ORCS contacts defective.

**OR does not pick up:**

OR coil defective or valve stuck mechanically closed.

Check for magnetic pull to confirm coil burned out.

If override is cutting too soon or too late on cooling (less than 100° F.) be sure to check for proper OD air flow before recalibrating ORCS switch as low air flow will give some symptoms.

**E. THIRD CYLINDER CUTOFF (TCCO) AND LOADING SOLENOID (TCL).**  
**SYMPTOMS**

Low capacity below 30° F. outdoor temperature.

Jumper 8 to L2 (unit running).

**Third cylinder loader (TCL) energized:**

Determined by a click or rattle in compressor as loading or unloading takes place.

H-3 contacts defective.

**Third cylinder loader does not energize:**

Jumper 17 to L2.

**TCL energized:**

TCCO defective or out of calibration.

**TCL not energized:**

Check for magnetic pull.

**No pull:**

TCL coil defective.

**Pull:**

TCL sticking internally or third cylinder sticking internally to compressor.

**SYMPTOMS**

Cuts out on high head.

Overloads during heating operation above 30° F.

Remove leads BD and BC from 2 and 17 respectively.

**Wattage or current to compressor drops:**

TCCO out of calibration or power element of TCCO lost charge or TCCO contacts sticking closed. If BD or BC is removed while unit is running, the third cylinder can be heard cutting out if it is loaded.

As a further check replace BD on 2. Then touch BC to L2 several times with unit running. If third cylinder is not heard cutting in and out then TCL is mechanically stuck or the third cylinder in compressor is stuck in the loaded position.

**F. SUPPLEMENTARY HEATERS.**

**SYMPTOMS**

Low capacity below 40° F. outdoor temperature.

Check power fuses.

With unit running on heating, second stage of Weathertron thermostat (TSH-2) closed and OD temperature low enough to close both OD thermostats (OD thermostat I closes at 32° F. air on discharge side of OD coil, and OD thermostat II at 12° F.) check to see if both supplementary heaters contactors (AH and BH) are closed.

**AH and BH closed:**

Check for voltage across all contactor contacts.

**Voltage across contacts:**

Contact dirty, burned, or not making.

**No voltage across contacts:**

Supplementary heaters burnt out or defective.

**AH and BH not closed:**

Jumper 10 to 11.

**AH and BH close:**

Contacts H-1 and W-1 dirty or defective.

**AH and BH does not close:**

Jumper 13 to 11.

**AH closes:**

OD thermostat I contacts dirty or defective or switch out of calibration or defective.

Jumper 9 to 11.

**BH closes:**

OD thermostat II contacts dirty or defective or switch out of calibration or defective.

**AH and BH do not close:**

Jumper 4 to L1.

**AH and BH close:**

Motor starter contacts MS dirty or defective.

**AH and BH do not close:**

Jumper thermal cutout switch (TCO).

**AH and BH close:**

Thermal cutout switch (TCO) open due to over heating, calibration, or defective contacts.

**AH and BH do not close:**

Coils of AH and/or BH relays defective.

(To Be Continued)

### Dravo Names Interstate

SIoux CITY, Iowa—The Interstate Air Conditioning Co., here, has been appointed distributor of Dravo heating equipment for a territory which includes 47 South Dakota and 10 Iowa counties, it was recently announced.



**FRICK Valves**

Are available, with sealcaps, in sizes of 1/4" through 8", for all refrigerants including the Freons, Genetrons and Isotrons. Standard valves up to 14". Many built-in advantages. Stocked in principal cities. Ask for new catalog of valves, fittings and supplies: write

**FRICK CO.**  
 WATKINS, IOWA, U.S.A.

SO HALSTEAD & MITCHELL ENGINEERS SAID:

**"LET'S STOP COOLING TOWER RUSTING and ROTTING!"**

### RUSTING

There's no "one-coat" protection which will stop cooling tower rust. Needed are super-strength bonding of protection to metal, toughness, inertness, flexibility, and a water-tight barrier. Only by Halstead & Mitchell are you offered the 3-coat protection of Vinsynite, Vinyl Zinc and chlorinated rubber—the most advanced protection ever devised to prevent cooling tower steel from rusting.

### ROTTING

We do more than praise the long life of wood used in our wetted decks—we are the only manufacturer who offers a 20-Year Guarantee on wetted deck wood against rotting or attack by fungus.

**Halstead & Mitchell**

BESSEMER BUILDING, PITTSBURGH 22, PA.

AT LEADING WHOLESALEERS EVERYWHERE

**FREE BULLETIN**

tells how

**ANEMOTHERM Air Meter**

saves in balancing air conditioning, heating and ventilating systems

The Model 60 Anemotherm Air Meter, developed by the Anemostat Corporation of America, gives you—in one convenient instrument—a simple, rapid method of balancing and checking any air system. It puts at your fingertips, by means of color-coded pushbuttons, air velocity, air temperature and static pressure. • The Anemotherm Air Meter pays for itself through time saved on only one major job. Write for Bulletin 55 giving all the facts.

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**ANEMOSTAT CORPORATION OF AMERICA**  
 10 EAST 39th STREET, NEW YORK 18, N. Y.



**E-Z-SEE LIQUID INDICATOR**



NEW FLO INDICATOR FLAP SHOWS ALL FLOW CHANGES

Analyze flow, function of expansion valve, by means of E-Z-SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof—hundreds of thousands in use.

Available to Wholesalers everywhere

**REMCO INCORPORATED**  
 ZELIENOPLE, PA.

**STAND-OUT**

OPPORTUNITY to profit with ONE PRICED

**INTERNATIONAL AIR CONDITIONER COVERS**

made of Firestone Velon

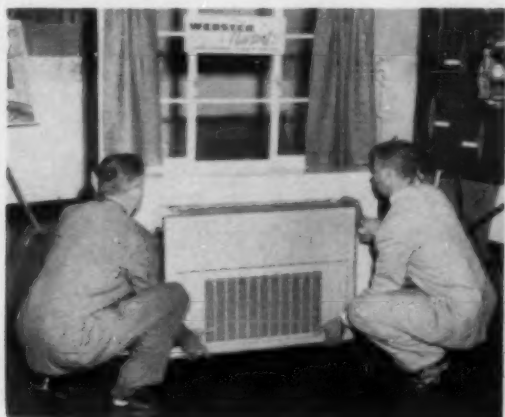


32 STYLES TO FIT EVERY LEADING MAKE FROM 1/2 to 2 ton units 1951 to 1956 MODELS

Wherever an air conditioner stands out, there is an opportunity for you to sell a cover. Profit with the FIRST, THE FINEST . . . INTERNATIONAL COVERS . . . ALL AT ONE LOW PRICE. Made of long lasting, heavier gauge Firestone Velon. Write for the facts today!

**INTERNATIONAL COVERS FOR AIR CONDITIONERS CORP.**  
 332 Broadway, New York 12, New York





ONE OF the "Websterama" traveling teams demonstrates installation of a year-round unit as part of the combined product and installation demonstration. Mr. Brennah and Mr. MacNichol make up this team.

### Visiting 50 Cities

## 'Websterama Products Parade' Demonstrates Heating, Cooling Installation Methods

CAMDEN, N. J.—"Websterama Products Parade," an educational presentation of new developments in heating and cooling equipment manufactured by Warren Webster & Co. here, is now on tour of 50 principal cities.

Launched in Philadelphia on Sept. 11, this presentation is planned for architects, engineers, heating contractors, and building owners and managers.

The basic heating comfort advantages of Webster "Tru-Perimeter Heating," together with the details of two new Webster heating-and-cooling systems, are the headline features of this traveling display.

Two-man teams from the Webster home office are presenting Websterama to meetings arranged by Webster representatives in the field.

The addition of air conditioning to an existing building is one of the subjects discussed. The Webster "Newport" year-round conditioner is presented as a solution to this problem.

"The precise method by which cast-iron radiation is removed and the Newport unit is attached to existing stub-ups is graphically presented," the company said. "The completed through-the-wall installation of

the unit is an important part of the demonstration. It provides both heating and cooling in a single compact cabinet-type unit, which is ideal for modernization."

Construction details of the new Webster heating-cooling conditioner are demonstrated by means of a cut-away unit. This cabinet-contained residential and commercial conditioner utilizes the same piping for winter heating with warm water, and summer cooling with chilled water.

Webster Tru-Perimeter Heating is the second major topic discussed.

"The simplicity of design, savings in initial cost, and other advantages are presented graphically," it was stated.

"Shown are three Webster products used in Tru-Perimeter Heating with emphasis on Standard and Custom Webster Walvector. Both are shown to utilize the same fin-tube heating element to provide draft-free heating comfort in buildings of all kinds."

Following its Philadelphia opening, the Websterama Products Parade moved to New York City. The itinerary includes cities in 37 states this fall and winter.



TELEVISION STAR ARLENE FRANCIS poses with the American-Standard Empire boiler. Miss Francis has been demonstrating American-Standard heating products on her NBC-TV "Home" show as a part of the 1956 "Boiler Maker" Campaign.

## American Standard Winding Up Drive On Modernization

NEW YORK CITY—Dealers handling American-Standard's air conditioning and heating equipment are winding up what the company has called "the most concentrated modernization sales campaign ever undertaken."

"Concentrated saturation" of advertising and sales promotion efforts throughout the country was aimed to provide early, sales-provoking consumer interest in the replacement of boilers and other hot water or steam heating equipment.

Two TV programs "Today" with Dave Garroway and "Home" with Arlene Francis, carried American-Standard modernization commercials during the campaign.

In addition to magazine and newspaper advertising, participating retailers were entitled to three automatic direct mailings to 100 prospective heating customers of their choice.

A new addition to the 1956 campaign was the "Modernization Demonstrator." This pocket-sized "sales clincher" had movable full-color panels with the same scenes from national magazine and newspaper advertisements. With the Demonstrator the retailer could show the homeowner how he could change the home into a modern, comfortable place to live, both upstairs and in the basement.

## Carrier Announces Barnard Appointment

SYRACUSE, N. Y.—The appointment of M. Everett Barnard as manager of Carrier Corp.'s unit heater department has been announced by Loren Fletcher, vice president and general manager of the Allied Products Div.

## York-Shipley Names Crawford to Post

YORK, Pa.—T. A. Crawford, veteran sales executive in the automatic heating industry, has joined York-Shipley, Inc. here, manufacturer of automatic heating and air conditioning equipment, as director of marketing. S. H. Shipley, president, announced recently.

Crawford joins the York-Shipley organization after more than 30 years with Timken Silent Automatic in various managerial and sales positions. He served as vice president and general manager for 13 years following a nine-year period as general sales manager.

Crawford has also been active as an industry leader, it was stated.

## Hermidifier Co. Buys Daffin, Lancaster

LANCASTER, Pa.—All rights to manufacture and distribute "Daffin" humidifiers have been sold by Daffin Mfg. Co. here and the Lancaster Engineering Corp. of Hazelton, Pa. to the Hermidifier Co. of Neffsville, Pa.

The transaction includes all inventories of completed units and spare parts as well as manufacturing tools and necessary materials.

According to Paul A. Herr, president of the newly-formed Hermidifier Co., there will be no interruption in delivery of Daffin units or spare parts to Daffin distributors.

The company is already producing Daffin humidifiers and, in addition, is working on several new products to tap sales opportunities for humidifying equipment in many new fields, the announcement further stated.

Can you do this with the condenser cleaner you're using now?



## anco condenser cleaner

is completely safe to use. It won't burn workmen's skin or attack metal surfaces, either in dry form or solution. If it's accidentally spilled in the service truck or on tools, no harm's done. Yet, ANCO CONDENSER CLEANER does a fast effective job of removing the heaviest scale. Dissolved in the sump while the system is in operation, it removes scale and rust within 2 to 15 hours, depending on the thickness of the scale. Head pressure drops to normal and operating efficiency is restored. Why take chances with unsafe cleaners? Do a good job safely with ANCO CONDENSER CLEANER.

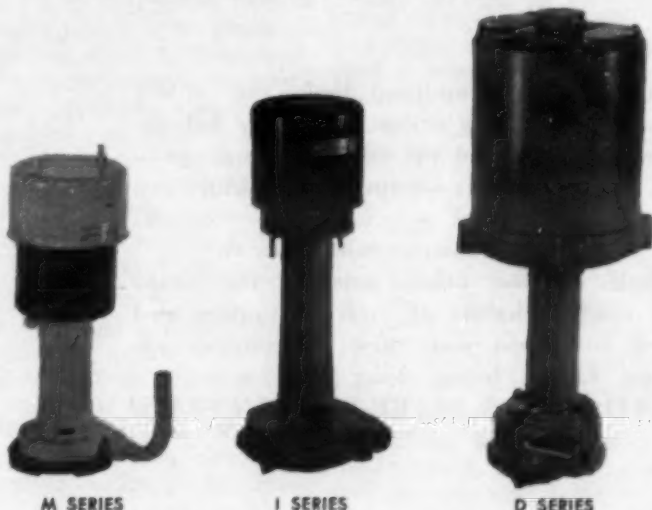
## Free WATER TREATMENT MANUAL

A complete booklet on the control of scale, rust and algae in refrigeration and air conditioning systems. No service department should be without a copy. It's yours for the asking.



Anderson Chemical Company, Inc.  
Box 1424 • MACON, GEORGIA

## CALL ON MIDWEST FOR YOUR JOB RATED PUMP UP TO 65 GPM AND 45 FOOT HEAD



In the MIDWEST line you will find a complete line of centrifugal pumps for use in refrigeration systems, beverage coolers, ice cube machines, condensate disposal tanks and general circulation uses. 140 models from 1/125 to 1/2 HP in submerged, side flange mounted and close coupled design. Ask our engineering department to recommend the proper MIDWEST pump for your application.

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The very reasons you read the NEWS . . . for information and to keep abreast of this fast-moving industry . . . make it your most important advertising medium! Your customers and prospects alike turn to the NEWS every week—just as you do—to learn the latest from the editorial columns and the advertising pages.

That's why the NEWS has been the foremost publication in the air conditioning and refrigeration industry for over a quarter of a century.

Now, with its new streamlined look, the NEWS brings you more advertising action than ever before. Top reader interest, stepped up editorial coverage—more services for advertisers—improved visibility for advertisements and editorial columns help you sell in this new, better and easier-to-read format.

Put yourself on the other side of the desk. Think of the reading habits of your customers and prospects, and you'll do your first advertising job where the first job is being done . . . . . in AIR CONDITIONING & REFRIGERATION NEWS.

**AIR CONDITIONING  
& REFRIGERATION**

*The Newspaper of the Industry*

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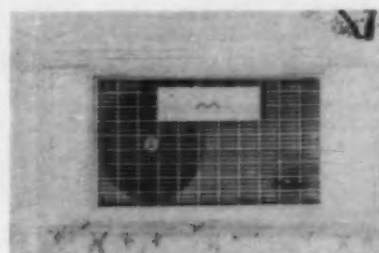
CHICAGO, 134 S. LaSalle St., FRanklin 2-8093, Allen Schildhammer.

DETROIT, 450 West Fort St., WOodward 2-0924, J. B. Sullivan.

LOS ANGELES, 4710 Crenshaw Blvd., AXminster 2-9501, Justin Hannon.



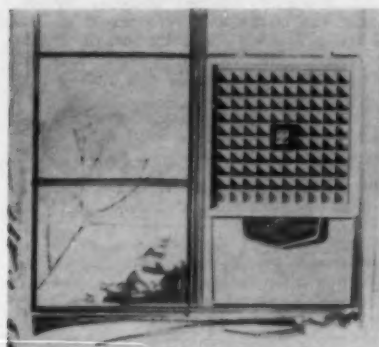




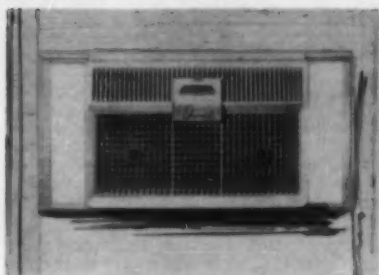
'Roto-Cone'



'Ultra-Thin'



'Casement'



'Imperial'

## Mitchell's Longest Line --

(Concluded from Page 1, Col. 5)

able in  $\frac{3}{4}$ -hp., 1-hp.,  $1\frac{1}{2}$ -hp., and 2-hp. models including a  $\frac{3}{4}$ -hp.,  $7\frac{1}{2}$ -amp. and a 1-hp., 12-amp. unit, either of which operate on ordinary 115-volt household current.

The Roto Cone series is fitted with Mitchell's new do-it-yourself "Panorama Expando-Mount."

Another feature on the series is Mitchell's two-step capillary tube for increased efficiency and quieter operation. Through "two-stage" expansion, colder refrigerant is delivered to the cooling coil. The "hiss" in single stage capillary tubes is trapped in a sound chamber and silenced in Mitchell's two-stage capillary tube.

Units in the Roto Cone series are:

Unit	Model No.	Suggested Price
$\frac{3}{4}$ hp., $7\frac{1}{2}$ amp.	M-2575	\$359.95
$\frac{3}{4}$ hp., 115 v., 12 amp.	M-257	349.95
1 hp., 115 v., 12 amp.	M-2157	369.95
1 hp., 230 v.	M-2007	369.95
$1\frac{1}{2}$ hp., 230 v.	M-2257	399.95
2 hp., 230 v.	M-2357	459.95

An "Ultra-Thin" series of room air conditioners that fit flush to the inside or outside and practically within the limits of a wall is another series in the Mitchell line.

Measuring 16 $\frac{1}{2}$  in. from front to back, the Ultra-Thin units are 26 $\frac{3}{4}$  in. long and 21 in. high.

The Ultra-Thin series installs in double-hung sash windows, through-the-wall, in transoms, and in commercial casement windows, providing unusual versatility. It has been designed with the air intake at the back only so it fits flush inside or outside and may be installed to meet any local building restrictions or municipal codes concerning installation.

One component of the Ultra-Thin models is the tilted condenser coil. It is positioned so that condensate is thrown from the discharge fan onto the coil, keeping a wet coil providing evaporative cooling at all times.

Other features of the unit are the interchangeable slide-out chassis and the easy-to-clean plastic front and spring loaded "Direction-Aire" louvers. Automatic thermostat is standard on all models.

Mitchell includes a mounting kit for installation of all Ultra-Thin units.

Units in the Ultra-Thin series.

Unit	Model No.	Suggested Price
$\frac{3}{4}$ hp., $7\frac{1}{2}$ amp.	M-4575	\$339.95
$\frac{3}{4}$ hp., 115 v., 12 amp.	M-457	329.95
1 hp., 115 v., 12 amp.	M-4157	339.95
1 hp., 230 v.	M-4007	329.95
$1\frac{1}{2}$ hp., 230 v.	M-4257	339.95

The "Power Pac '24,'" designed especially for installation in windows as narrow as 24 in., is a part of the 1957 line.

The "24," it is said, will make air conditioning possible in dwellings where window size precluded installation of "standard-size" room air conditioners.

The unit measures just 22 $\frac{1}{2}$  in. wide, 14 $\frac{1}{4}$  in. high, and 24 $\frac{1}{2}$  in. deep.

Featured on the Power Pac 24 are a newly designed flush mount front, the two-step capillary tube for more efficient cooling, the interchangeable slide-out chassis, and adjustable louvers for Mitchell "Direction-Aire."

Units in the Power Pac 24 series:

Unit	Model No.	Suggested Price
$\frac{3}{4}$ hp., $7\frac{1}{2}$ amp.	M-5575	\$329.95
$\frac{3}{4}$ hp., 115 v., 12 amp.	M-557	299.95
1 hp., 115 v., 12 amp.	M-5157	329.95
1 hp., 230 v.	M-5057	299.95

Mitchell 1957 "Pancake" series units measure 32 in. wide, 15 in. high, and 16 $\frac{3}{4}$  in. deep. They may be mounted in many ways . . . through-the-wall, in top or bottom of a double-hung window, in a transom, or can be used in commercial casement installations.

Units in the Mitchell Pancake series are:

Unit	Model No.	Suggested Price
$\frac{3}{4}$ hp., 115 v., $7\frac{1}{2}$ amp.	M-3957	\$379.95
$\frac{3}{4}$ hp., 115 v., 12 amp.	M-3367	379.95
1 hp., 115 v., 12 amp.	M-3167	399.95
1 hp., 230 v.	M-3067	419.95

Full-powered casement window room air conditioners are offered in the 1957 line.

Available in full capacity  $\frac{3}{4}$ -hp. and 1-hp. models, the units may be mounted flush to the outside wall of the room or "half-in-half-out" of the room.

Installation is so simple that the casement unit may be mounted with the use of only hand tools. No cutting of the window is required and the unit can be removed without leaving a trace, it is said.

Regulated by an automatic

thermostat, the Mitchell casement unit is controlled by a Weather Dial which adjusts to "Dyna-Cool," "Nite-Cool," "Hi-Vent," "Lo-Vent," and "Circulate."

Units in the Mitchell casement series:

Unit	Model No.	Suggested Price
$\frac{3}{4}$ hp., $7\frac{1}{2}$ amp.	M-3757	\$359.95
$\frac{3}{4}$ hp., 115 v., 12 amp.	M-3457	349.95
1 hp., 115 v., 12 amp.	M-30157	389.95
1 hp., 230 v.	M-3057	399.95

The multi-room cooling "Imperial" room air conditioner is included in the 1957 line of Mitchell Mfg. Co., in  $\frac{3}{4}$ -hp. and 2-hp. models.

The Imperial series will continue to be featured as the top end of the Mitchell line. Company sales executives state the Imperial will be sold without model numbers or yearly designations as long as there is a strong demand for this premium product.

The Imperial series features AFM (air flow modulation). This permits adjustment to high-powered cooling which will bring the temperature of a warm room to the desired level in minutes, or to thermostatically controlled gentle-action cooling which maintains temperature at the desired level.

Air distribution is controlled by Mitchell Direction-Aire which allows draft-free cooling to be carried to all areas. The  $\frac{3}{4}$  and 2-hp. units fit 32-in. windows and have interchangeable chassis.

Mitchell includes the Panorama Expando-Mount that does not block light from the room in the Imperial line.

Units in the Imperial line:

Unit	Suggested Price
$\frac{3}{4}$ hp., 115 v.	\$409.95
2 hp., 230 v.	499.95

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1932, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

Air Conditioning and Refrigeration News published weekly at Detroit, Michigan for October 1, 1956.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Business News Publishing Company, Detroit, Michigan.  
Editor, George F. Taubenschlag, Grosse Pointe, Michigan.  
Managing editor, Phil B. Hedeker, Detroit, Michigan.  
Business manager, Edward L. Henderson, Birmingham, Michigan.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

Business News Publishing Company, Detroit, Michigan.

Margaret B. Cockrell, Detroit, Michigan.  
George F. Taubenschlag, Grosse Pointe, Michigan.  
Helen C. Henderson, Birmingham, Michigan.  
Phil B. Hedeker, Detroit, Michigan.  
Robert M. Price, Hillsdale, New Jersey.  
C. Dale Meade, Traverse City, Michigan.  
Walter J. Schuler, Detroit, Michigan.  
Edward L. Henderson, Birmingham, Michigan.  
John O. Sweet, Detroit, Michigan.  
P. Allen Schindhammer, Wilmette, Illinois.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semi-weekly, and tri-weekly newspapers only.)

28,187.

Edward L. Henderson,  
Business Manager  
Sworn to and subscribed before me this 4th day of October, 1956.  
[SEAL] Daisy C. Hyatt  
Notary Public, Wayne County, Michigan  
(My commission expires April 22, 1957.)



NOISELESS AND DRAFTLESS electronic panel-type air conditioning system, capable of room cooling or heating, has been developed by scientists of the Radio Corp. of America. Shown here is a special room constructed at RCA's David Sarnoff Research Center, to demonstrate operation of the novel system.



SHOWN above is array of cooling fins at the back of one of the panels through which the cooling and heating effects are achieved in the electronic air conditioning system.

## Electronic Cooling --

(Concluded from Page 1, Col. 4)

current. With a reversal of the electric current, the same panels produce a heating effect.

Employing new materials developed at RCA Laboratories, the system uses no motors, fans, pumps, or other moving parts. Room cooling or heating is achieved by both radiation and convection—the gentle circulation of air caused by differences in the air temperature. In a small demonstration room used in the demonstration at the anniversary celebration, the system was said to be able to maintain a 25° F. temperature differential between outside temperatures in either heating or cooling.

### Refrigerator Principle Identical

The new electronic refrigerator, said to be a larger and more efficient successor to the experimental RCA electronic refrigerator announced by Gen. Sarnoff in January, 1955, operates on principles identical to those of the electronic air conditioning system.

The refrigerator has a food compartment of 4 cu. ft., in which a temperature of 40 to 45° F. is maintained, plus a 30-cu. in. ice tray in which ice cubes can be produced. Like the air conditioner, it is noiseless and has no moving parts.

### System Described

Dr. E. W. Engstrom, senior executive vice president of RCA and other RCA scientists further described the air conditioning system and refrigerator as follows:

The demonstration system comprises two large wall panels—one measuring 5 by 5 ft., and the other 5 by 6 ft.—with surfaces consisting of an array of 2-in. metal squares.

To the back of each square is

attached a small cylinder of thermoelectric material developed at RCA Laboratories. Dr. Engstrom explained that such materials produce either cold or heat under the influence of direct electric current, depending upon the direction of flow of the current.

The new thermoelectric materials and the panels themselves were developed by a research group under the direction of Nils E. Lindenblad, veteran RCA scientist and engineer who was responsible for the first electronic refrigerator shown by RCA early last year, and for the improved and larger refrigerator shown today.

Lindenblad explained that the air conditioning system and the refrigerators operate on a principle discovered more than 120 years ago by the French physicist Jean Charles Peltier. In the so-called "Peltier Effect," the passage of a direct current through a junction of two dissimilar materials creates a cooling effect at the junction when the current moves in one direction, and a heating effect when the direction of current is reversed.

"Starting with this experiment, which has remained largely a scientific curiosity for more than a century, we have taken a new approach based on our recently-acquired knowledge of the behavior of electrons inside various solid materials," said Lindenblad. "As a result, we have been able to create for the first time new materials which achieve cooling and heating by this means on a practical scale."

### How Peltier Effect Has Been Applied

As described by Lindenblad, the Peltier effect has been applied in the following fashion to achieve the RCA room air conditioning system:

The passage of direct current through the thermoelectric junctions behind each of the small square plates on the wall panels causes heat to be carried away from the squares. At the other end of each junction is a set of small cooling fins which dissipate the heat. When the system is used for heating, the current is reversed, and the heat is "pumped" electronically into the plates from the air outside the room.

The RCA engineer pointed out that the panels replace a complete section of wall, so that the cooling or heating surface is in the room while the fins are exposed to outdoor air. He explained that since the fins are only 4 in. long, they might normally be adapted to any architectural design by shielding behind a decorative panel suiting the exterior appearance of a house.



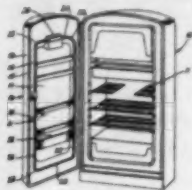
For more information about products advertised on this page use Information Center, page 24.



# PATENTS

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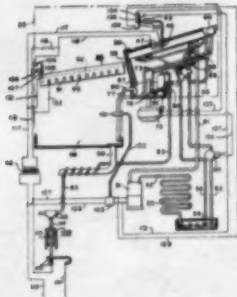
**2,746,822. CABINET CONSTRUCTION.** Leo J. Amore, Philadelphia, Pa., assignor to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application July 28, 1952, Serial No. 361,338. 6 Claims. (Cl. 312-214.)



1. A door construction comprising a panel, a pair of spaced outwardly projecting and vertically extending ridges on one face of said panel, a trim member secured to each of said ridges, said ridges and trim members being constructed so as to form at least a pair of pockets having apertures providing access thereto, the aperture of the pocket of one of said pair being disposed in confronting relation to the aperture of the other pocket of said pair, a shelf positioned on said door, and means on said shelf extending through said apertures within the pockets and supported by the latter in a manner permitting limited movement of said means within each pocket of said pair.

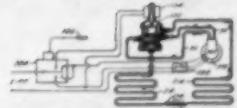
## Week of May 29

**2,747,375. ICE MAKING APPARATUS.** Joseph R. Pichler, Dayton, Ohio, assignor to General Motors Corp., Detroit, Mich., a corporation of Delaware. Application May 14, 1953, Serial No. 355,061. 2 Claims. (Cl. 62-4.)



1. An ice maker comprising in combination, a cabinet, a refrigerating system including a refrigerant evaporator within said cabinet and a refrigerant translating device, conduit means in said cabinet exposed to the temperature produced by said evaporator for directing water thereover, a make up water supply pipe for furnishing water under a normal substantially constant pressure to said conduit means, said refrigerating system being capable of reducing the temperature of said evaporator below 32° F. for freezing water directed thereover into ice, means actuated independently of conditions in said refrigerating system automatically and directly in response to a drop in pressure of water in said make up water supply pipe below said normal pressure therein to cause the temperature of said evaporator to increase above 32° F. and prevent freezing of water in the water directing conduit means within said cabinet, and said last named means also being actuated automatically in response to restoration of said normal water pressure in said make up water supply pipe for causing the temperature of said evaporator to be lowered below 32° F.

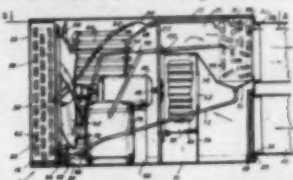
**2,747,376. REVERSIBLE REFRIGERATING SYSTEMS.** Glenn Muffy, Springfield, Ohio. Application Sept. 24, 1953, Serial No. 382,047. 17 Claims. (Cl. 62-4.)



1. In a refrigerating system of the reversible heat pump type including a compressor and a motor to drive the same, valve means controlling a plurality of ports and operable to reverse the flow of refrigerant in a part of said system, electrical means for actuating said valve means, and a multiple-throw switch for connecting a source of current with said motor and with said electrical means, said switch including contacts to close two parallel circuits at one throw whereby one of said circuits energizes said motor while the other circuit energizes said electrical means, the other throw of said switch being arranged to energize said motor while the circuit of said electrical means remains open.

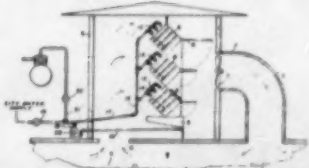
**2,747,377. AIR CONDITIONING UNIT.** Ralph S. Lowensohn, Wichita, Kan., assignor to The O. A. Sutton Corp., Inc., Wichita, Kan., a corporation of Kansas. Application May 2, 1955, Serial No. 505,381. 6 Claims. (Cl. 62-4.)

1. In an air conditioning unit, a casing having an opening in a vertical wall thereof, a condenser structure within said casing and extending across said opening, said condenser structure having an upper section and a lower section, two separate cooling



systems each having a motor-compressor unit and an evaporator positioned in said casing, one of said condenser sections being connected in series in one of said systems and the other of said condenser sections being connected in series in the other of said systems, a fan for directing air to be cooled through said evaporators to cool said air and cause water vapor to be condensed on said evaporators, a water reservoir below said condenser structure, means for collecting condensed water from said evaporators and delivering it into said reservoir, and a fan adjacent said condenser structure for directing cooling air outwardly therethrough, said fan having a slinger ring dipping into said reservoir to throw said water upon the heat exchange areas of said condenser structure in contact with said cooling air, said lower condenser section having substantially less of said heat exchange area in proportion to the capacity of its associated motor-compressor unit and evaporator than said upper condenser section.

**2,747,378. DEFROSTING ARRANGEMENT FOR A REFRIGERATING COIL.** Howard T. Noone, Atlanta, Ga., assignor to Carrier Corp., Syracuse, N. Y., a corporation of Delaware. Application March 19, 1955, Serial No. 496,211. 1 Claim. (Cl. 62-102.)



In a defrosting arrangement, the combination of a first compartment adapted to contain articles to be refrigerated, a second compartment in communication with said first compartment, a fan associated with said second compartment adapted to induce an air stream from said first compartment through the second compartment and back into said first compartment, at least one evaporator coil located in said second compartment, said evaporator being in heat exchange relation with the air stream induced through second compartment, a plurality of spray nozzles operatively associated with said evaporator so that fluid issuing from said spray nozzles will substantially cover the evaporator surface, a header operatively connected to said spray nozzles and adapted to supply a defrosting fluid to said spray nozzles, said header passing from said second compartment to points remote from said first and second compartments, a drain valve located in said header remote from said second compartment, a line operatively connected to a source of defrosting fluid, a line connected to a source of compressed gas, said last mentioned lines being operatively connected to said header valve means being located in each of said lines and being adapted to selectively pass defrosting fluid or compressed gas through said header, said header being so disposed so that gravity will drain substantially all fluid from said lines through said drain valve when said valves in said lines are in closed position, a drip pan disposed below said evaporator to collect all defrosting fluid dripping therefrom, said drip pan being connected to a drain line adapted to pass defrosting fluid from said second compartment, closure means associated with said last mentioned drain line adapted to minimize heat transfer through said drain line into said second compartment, at least one damper member being located in said second compartment, said damper member being adapted to be closed during the defrosting process so as to restrict the flow of air through the second compartment during the defrosting process.

## SALES ENGINEER

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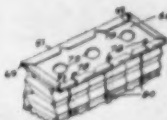
BOX 1500,  
REALSERVICE ADVTG.  
110 West 24th St., N.Y.C.

**2,747,379. LAMINAE FREEZER.** Crosby Field, Brooklyn, N. Y., assignor to Plakkee Corp., Brooklyn, N. Y.



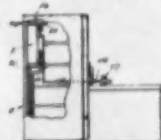
1. In a freezing apparatus of the character described, the combination of, a freezing tube assembly comprising a plurality of axially aligned freezing tube sections of different and successively greater diameters along the axis are presenting metal surfaces upon which laminae of ice are formed and so arranged that the smaller diameter laminae are moved axially during successive cycles whereby larger laminae are formed around smaller laminae to build up a body of ice which has its end projected from the end of the largest freezing tube section, ice breaking means which is moved along a path into contact with the body of ice projecting from said freezing tube assembly, and cycle means to freeze the laminae of ice and thereafter break the projecting body of ice free and to subsequently cause the laminae to move axially whereby another body of ice projects from the freezing tube assembly.

**2,747,380. ICE CUBE PACKAGE OR MOLD.** Robert H. Midnour, San Diego, Calif. Original application Aug. 2, 1950, Serial No. 177,399, now Patent No. 2,645,082, dated July 14, 1953. Divided.



1. A unit for forming ice cubes comprising a foldable and collapsible container normally in compressed position, said container expanding to a substantially maximum volume upon admission of water therein to thereby provide an ice cube package when the said water is frozen, said unit including a plurality of partitioned portions therein whereby a plurality of ice cubes will be formed therein, openings communicating to said unit and through said partitions for admission of said water therein, said container including tear-strips along the outer surfaces thereof whereby the ice cubes thus formed can be removed.

**2,747,381. FORCED CONVECTION EVAPORATOR AND WATER CHILLER.** Joseph H. Lazar, Chicago, Ill.



1. A portable refrigeration system enclosed in a casing comprising a water source, a plurality of water coils in fluid connection with said water source, a plurality of refrigerant coils in heat exchange relationship with said water coils, a water reservoir in addition to said water source, said reservoir having its outlet side connected to the water coils, and fan means for drawing air between said coils and thence across said reservoir to pre-chill the water therein.

**2,747,382. SYSTEM FOR CONCENTRATING ANTI-FREEZE SOLUTION.** Harry Sloan, Waukegan, Wis., assignor to The Vilter Mfg. Co., Milwaukee.

2. In a defrosting system for air stream refrigerated cooling surfaces, means for constantly circulating abundant quantities of hygroscopic solution having low freezing point over the air cooling surfaces to prevent frost deposits thereon by causing the solution to absorb frost producing moisture

## REFRIGERATION PROJECT ENGINEER

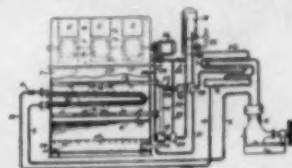
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from the air stream, means for withdrawing regulated quantities of the frost preventing solution mixed with absorbed moisture from the solution circulating means and for distilling the



withdrawn mixture under vacuum to concentrate the solution thereof, means for returning the concentrated distilled solution to said circulating means, and means for returning removed moisture resulting from said distillation to the air stream beyond said cooling surfaces to humidify the cooled air.

**2,747,383. DEHUMIDIFIER APPARATUS FOR AIR CONDITIONING.** Peter Schlumbohm, New York, N. Y.



1. Air conditioner for a single person comprising a vertical cylindrical tube with a ninety-degree elbow joining its upper end and being closed at its lower end to form at this lower end a watertight container and having an upper section below said elbow and a lower section above the level of the water in said watertight container, a refrigerant condenser being arranged in said upper section, a refrigerant

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MANUFACTURERS REPRESENTATIVES in all territories for a new air conditioning program just being introduced. If you have the ability to handle a real profit making activity, write giving territory, lines carried and air conditioning experience. M. A. Myers, RAYMOND ROSEN EQUIPMENT CO., 51st & Parkside Ave., Philadelphia 31, Pa.

MANUFACTURER'S REPRESENTATIVE to sell special items of commercial refrigeration, which will be fill in items for established dealers. Territory, New York, Pennsylvania, Midwestern or Southwestern states. THE C. SCHMIDT COMPANY, 1712 John Street, Cincinnati 14, Ohio.

AIR CONDITIONING engineer—Excellent opportunity for capable man with engineering degree to carry forward the design and development of air conditioning equipment in sizes of 2 horsepower and up. Must have successful experience in design of compressors, coils, controls and related components; and the application of air conditioning equipment to residential heating systems. Salary commensurate with responsibilities. Send complete resume to H. Rush, U. S. Machine Division, STEWART-WARNER CORPORATION, Lebanon, Indiana.

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Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office and offer only a brief summary of each invention. Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Copies should be ordered by number and title and a mention of the fact if they are either Designs or Reissues.

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evaporator being arranged in said lower section, said vertical tube having a slot in said lower section below said evaporator to allow air to enter said lower section, said slot being adjustable in its width by a sliding member having an operating knob, said cylindrical tube having a slot in said upper section below said condenser and said slot having a sliding member with an operating knob, said two knobs being arranged on that side of said cylindrical tube towards which the elbow is directed, said elbow forming the housing for air-propelling means whereby air can be sucked in through said slots in said cylindrical tube and can be directed through said elbow towards a person in front of it.

(To Be Continued)

WANTED: EXPERIENCED, commercial refrigeration servicemen in Detroit area. Only experienced need apply. Top scale. Replies held in confidence. State age and experience. BOX A5634, Air Conditioning & Refrigeration News.

CONTROL VALVE sales engineer. Opportunity for alert young man to join small, growing company building refrigeration control valves. Prefer graduate engineer or refrigeration experience plus sales background. Operate from Illinois home office. Salary plus incentive. Give complete resume in first letter. Strict confidence for replies. BOX A5647, Air Conditioning & Refrigeration News.

### EQUIPMENT FOR SALE

NEW EQUIPMENT—never used. 310 ton water chilling set-up complete with 300 h.p. motor, turbo compressor, speed increaser, chiller, condenser, controls, etc. JOHN F. CARSON, "A" and Venango Sts., Philadelphia 34, Pa. Garfield 6-2221.

THOUSANDS OF air conditioners are now equipped with Kesco automatic condensate water disposal pumps available at your local wholesalers in 10 and 20 foot heads 110 or 220 volts only 9" high, water inlet 5 inches from floor. Wholesalers write to KESCO PRODUCTS, P. O. Box 84, Springfield Gardens 13, New York.

2 CARRIER COMPRESSORS, mod. 7H6, 10 - 15 h.p. \$225.00 and a mod. 7G6, 15 - 20 h.p., \$275.00 complete with valves and flywheels, 1 Acme Dry Ex. chiller, mod. 10 Cat. No. 61012Y6, Ser. No. 1961-801, \$225.00. All used but in good condition. 89 SANTA ROSA AVENUE, San Francisco, California.

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### MISCELLANEOUS

ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR; 2633 Lincoln Avenue, Chicago 13, Illinois.



## ARW Meeting --

(Concluded from Page 1, Col. 4)

suppliers wholesalers association meeting.

Among the speakers will be Eugene B. Mapel of Barrington Associates, Inc.; Robert W. French, Director, Port of New Orleans; Dr. Paul C. Taylor, School of Business Administration, Tulane university; and George S. Jones, Jr., managing director, Air-Conditioning & Refrigeration Institute.

Also on the docket will be discussions of methods and programs for promoting the services of the air conditioning and refrigeration equipment and supplies wholesaler, particularly in today's expanding air conditioning field.

Afternoons have been left free to provide time for wholesaler-supplier conferences.

The ARI Product Sections scheduled to meet during this period include Cooling Towers; Flow Control Valves; Temperature Controls; Tubular Products; Valves, Fittings, and Accessories. The Exposition and Credit committees of ARI will also meet.

Following is the detailed program for the ARI meeting:

### TUESDAY, OCT. 23

9 a.m.—Board of Directors Meeting.

12 noon—Directors Luncheon.

1:30 p.m.—Directors Meeting.

5:30 p.m.—Finance Committee Meeting (ARW Suite).

7 p.m.—Directors and Observers Dinner (Kolbs Restaurant).

### WEDNESDAY, OCT. 24

9 a.m.—Directors Meeting.

10 a.m.—Registration.

1:30 p.m.—Ladies Boat Trip, "S.S. Good Neighbor." Guests of City of New Orleans.

All Day—Mens Golf Tournament—New Orleans Country Club.

### THURSDAY, OCT. 25

8 a.m.—Registration.

10 a.m.—ARW annual meeting (members only). Presiding, E. L. Tramposh, President. Reports of Officers, Committees, Executive Secretary. Program Selection for 1957. Constitutional Amendment. Election of Directors.

12:30 p.m.—"Kickoff" luncheon (manufacturers and wholesalers). Presiding, R. E. Warwick, Convention Chairman. "The Marketing Job Today," Eugene B. Mapel, Barrington Associates, Inc., New York City. Discussion on Keynote Address. Reports on Wholesaler Promotion Conference.

3 p.m.—Wholesaler-supplier Conferences.

6 p.m.—Reception.

8 p.m.—Past presidents' dinner.

### FRIDAY, OCT. 26

9:30 a.m.—Meeting (Manufacturers & Wholesalers). "People, Products and Progress—1957:" (Movie). "A Southern View of the Business Outlook," Robert W. French, Director, Port of New Orleans. "Costs and Your Break Even Point," Dr. Paul C. Taylor, School of Business Administration, Tulane university. Discussion of Dr. Taylor's talk. Address: E. L. Tramposh, President, ARW. Address: Representative of suppliers. Address: George S. Jones, Jr., managing director, ARI.

12:30 p.m.—Luncheon (Members, Manufacturers and Ladies).

2 p.m.—Wholesaler-Supplier Conferences.

6:30 p.m.—Officers Reception.

7:30 p.m.—21st Annual Banquet. Introduction of New Officers and Directors. Presentation of Awards.

### SATURDAY, OCT. 27

10 a.m.—1957 Board of Directors Meeting.

## Freezer-Stored Bread Wins Baking Contest Prize After 1 Year

LOS ANGELES — At last year's Los Angeles County Fair, 68-year-old Streeter Blair, an antique dealer and amateur baker, entered nine kinds of bread in the bread contest and won four first and five second prizes.

One of the second prize winners was a batch of whole wheat bread. After the judging, Blair stuck a loaf of the whole wheat in his home freezer.

Recently, Blair thawed out the bread that had been frozen for a year and entered it in the contest at this year's fair. Result: First prize and a front-page story in the *Los Angeles Times*.

Blair didn't let the judges in on his secret until after he got his ribbon.



TWEED



HANSEN



FRANKEL



HUTCHINSON

## Dole Promotes 4 --

(Concluded from Page 1, Col. 3)

which produces the "Cel" line of refrigerating equipment.

John E. Hutchinson, currently

research and development engineer, will take over the post of general sales manager. Bruce P. Tweed, western division sales manager, has been recalled to the home plant and will head the research and product development division. George E. Frankel, comptroller, has been elected secretary-treasurer of Dole.

## Wolverine Tube Opens Mill Depot In Dayton

DETROIT — Wolverine Tube has opened a new mill depot in Dayton, Ohio to better serve their wholesaler customers, reports J. H. Smith, east-central district manager for Wolverine Tube, Div. of Calumet & Hecla, Inc.

Copper water tube, refrigeration tube, and automotive tube will be stocked.

James Jolly will coordinate the new Wolverine mill depot.

## Former NEWS Aide, W. Henry Knowlton, Dies In Detroit

DETROIT—W. Henry Knowlton, former assistant editor of AIR CONDITIONING & REFRIGERATION NEWS, and well-known in the air conditioning and refrigeration industry, died Oct. 7 here. He was 50.

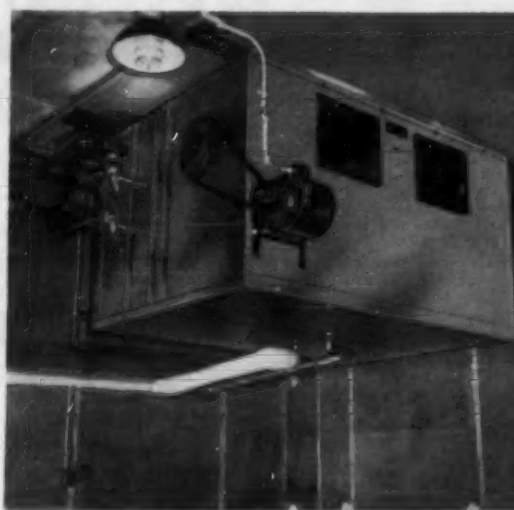
Knowlton was on the staff of AIR CONDITIONING & REFRIGERATION NEWS in the late 1930's, and later was a member of the sales promotion department of the Airtemp Div., Chrysler Corp.

He served overseas with the American Red Cross during World War II, and following the war was engaged in advertising and sales promotion work, and in free lance writing. Much of his work was in the air conditioning field. His wife, Kathryn, a son, and two daughters survive him.

# RAPID...

## Complete Defrosting With Glycol

in



Levitz Frozen Foods, Inc., Lebanon, Penna.



Refrigeration Contractor: Herre Bros., Harrisburg, Penna.  
Consulting Engineers: V. C. Patterson & Associates, York, Penna.

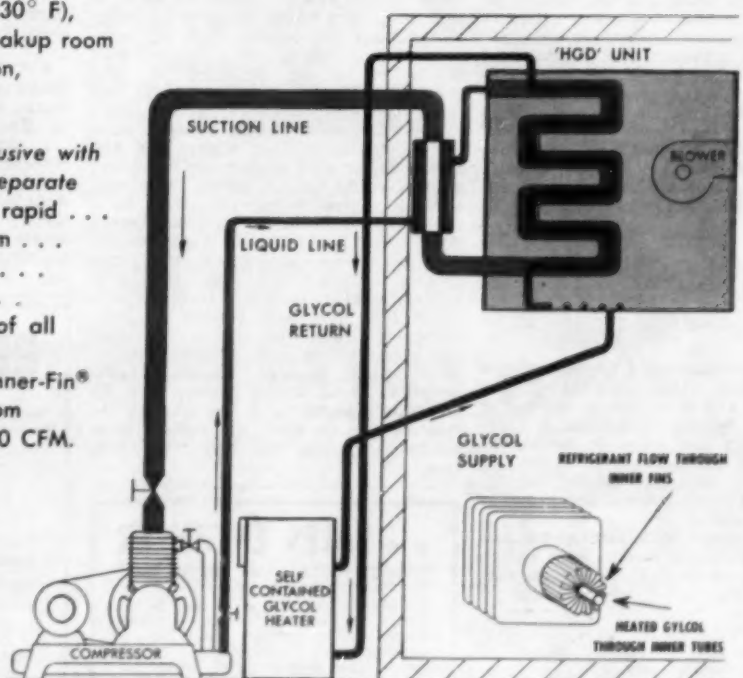
## Dunham-Bush Heavy Duty Product Coolers

Dunham-Bush 'GD' Glycol Defrost product coolers in the sharp freeze room (maintained at minus 30° F), meat storage room (minus 10° F) and breakup room (0° F) at Levitz Frozen Foods, Inc., Lebanon, Pennsylvania, require defrosting for only 30 minutes once a day.

Inner-Fin® construction of these units, exclusive with Dunham-Bush, makes possible an entirely separate defrost circuit (see diagram). Defrosting is rapid . . . room temperature rise is held to a minimum . . . no dilution of defrost medium is possible . . . system has "separate-circuit" reliability . . . power economies are marked. Defrosting of all units is automatically controlled.

'GD' units, featuring all copper patented Inner-Fin® construction, are available in capacities from 22,000 to 136,000 BTU/hr., 4,800 to 18,300 CFM.

Request free catalog containing complete information on these and other units in the extensive Dunham-Bush line of quality low temperature equipment.



**DUNHAM-BUSH**

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AIR CONDITIONING, REFRIGERATION, HEATING PRODUCTS AND ACCESSORIES

For more information about products advertised on this page use Information Center, page 24.